



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

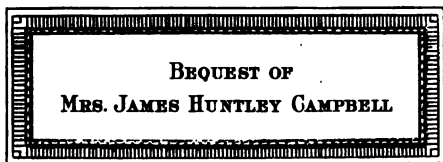
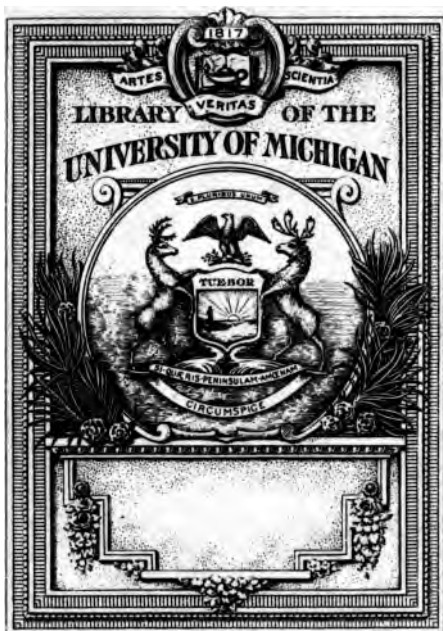
B 954,557

Mr. James H. Campbell
37 Prospect Ave. N. E.
Grand Rapids
Michigan

GRAND RAPIDS FLORA

BY

EMMA J. COLE.





5

GRAND RAPIDS FLORA.

A

CATALOGUE

OF THE

Flowering Plants and Ferns

GROWING WITHOUT CULTIVATION
IN THE VICINITY OF
GRAND RAPIDS, MICHIGAN.

Kent County

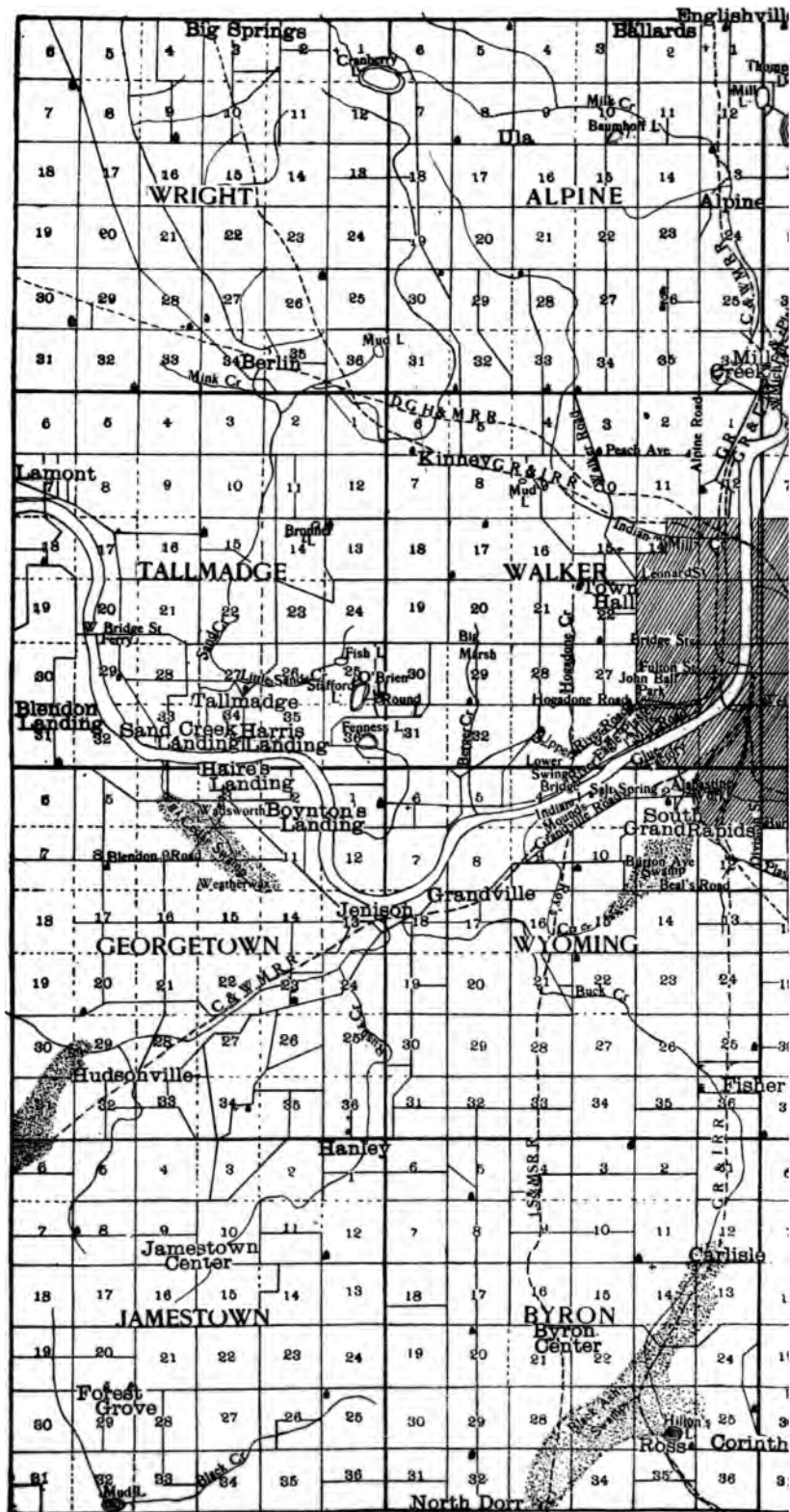
BY

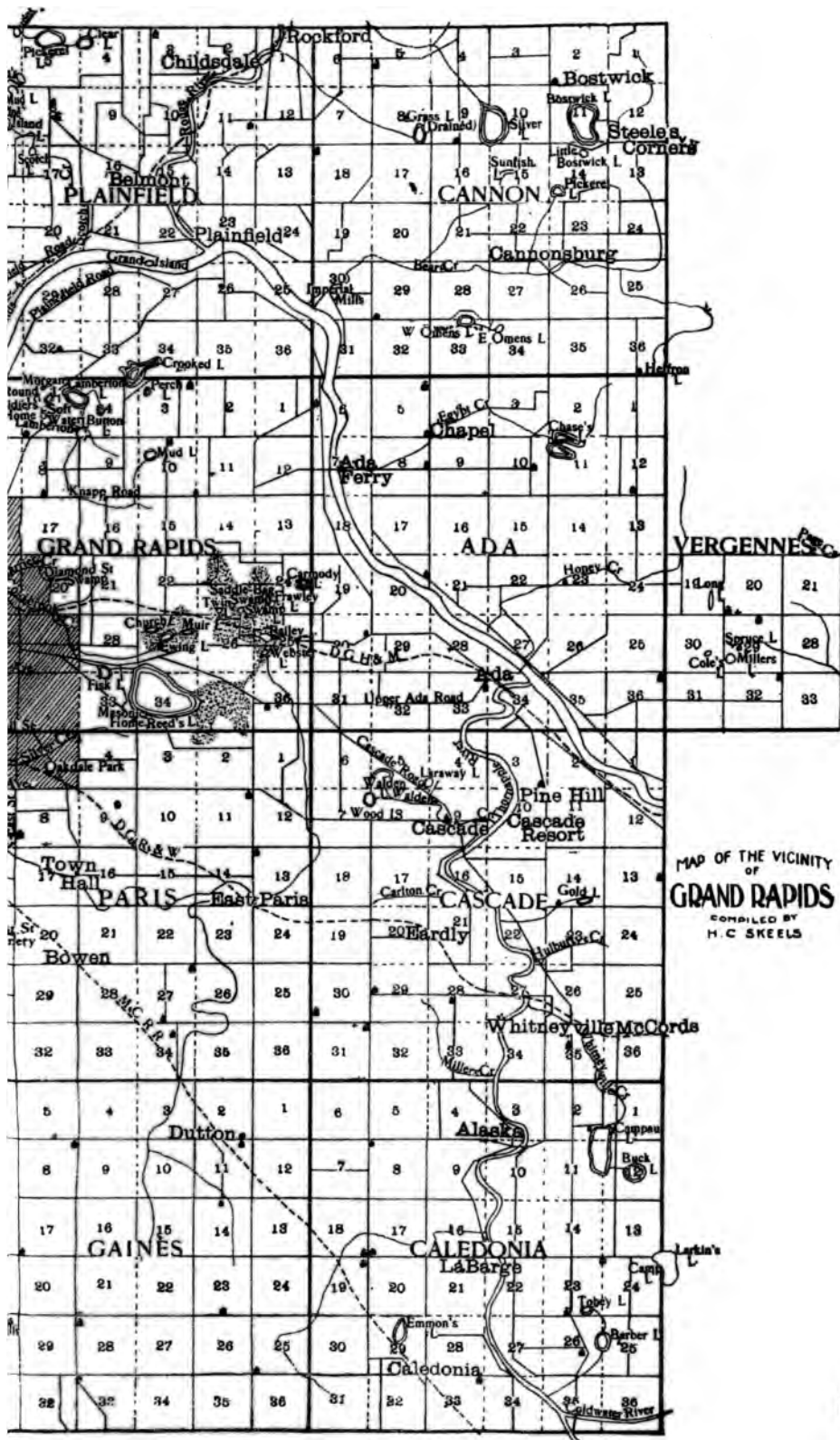
EMMA J. COLE.

GRAND RAPIDS, MICH.
A. VAN DOET, Book and Job Printer.
1901.

QK
167
.C67







QK
167
.C69

Ms. James H. Campbell
#12-11-1925

Ms. B-2-11-1925
3-20-23/1925

INTRODUCTION.

I have aimed to include in this publication all of the flowering plants and higher cryptogams, so far as observed, which grow without cultivation within sixteen and one fourth townships, an area of 585 square miles. This territory includes the City of Grand Rapids as a center with its two tiers of surrounding townships.

Students of Botany in the Grand Rapids High School, former teachers of the subject here, and several local collectors, have supplemented my own personal efforts in furnishing the information which it contains.

This catalogue, like all pioneer work in this line, must necessarily prove incomplete. Even in so small a district as this, there will be some unobserved places worthy of careful investigation. It is hoped, however, that it will contribute something to the better knowledge of our flora.

The work has been done with care as to local distribution, abundance, and constancy of the species mentioned. Attention has also been given to any habits; or morphological variations, in those plants which have their natural geographical limits in the State, and which come within, or near, the range of this district.

Care has been taken that no plant should appear in the catalogue without being represented by a specimen in the herbarium referred to, and with sufficient data to warrant its acceptance.* All notes or statements quoted from other sources have been carefully verified.

*The few exceptions are specified.

This publication is intended mainly to assist high school students and local collectors in the study of plant life, by directing their efforts and enlarging their resources.

The herbariums representing this section are especially fine, each containing from five hundred to twelve hundred specimens. They are in Grand Rapids unless otherwise specified. Besides my own herbarium, the following have been consulted:

The collections of Leon J. Cole; Charles W. Fallass, Petoskey, Mich.; Mrs. Mary B. Fallass; Hermann W. Hyser, Plainfield Village, Mich.; Burton E. Livingston; S. Owen Livingston; W. Earle Mulliken; Mrs. Hattie M. Bailey Pieters, Washington, D. C.; "Our Herbarium," by Homer C. Skeels and Miss Jennie Shaddick; also the George D. Sones Collection, now the property of the Kent Scientific Institute.

The following publications have been consulted:

Michigan Flora, Dr. W. J. Beal and Prof. C. F. Wheeler, 1893; Catalogue of Flowering Plants of the Southern Peninsula of Michigan, N. Coleman, 1874; Michigan:—Its Resources, 1892-'93.

Most grateful acknowledgements are due to Prof. C. F. Wheeler of the Michigan Agricultural College, to whom all doubtful specimens, as well as the entire collection of carices and potamogetons have been submitted. His kindly assistance and unabating interest have been great incentives in the preparation of this work. Dr. B. L. Robinson and his assistant, Mr. M. L. Fernald, of Harvard University, have given valuable suggestions. Mr. Luther S. Livingston of New York City, has kindly read the proof throughout.

Thanks are also due to the members of the Grand Rapids Botanical Club, especially to Miss Jennie Shaddick, Homer C. Skeels, W. Earle Mulliken, and S. Owen Livingston. Their united energies as collectors and students have made this publication possible. Homer C. Skeels prepared the accompanying map of the district.

Miss Annah M. Clark, Mr. Luther S. Livingston, and Prof. Robert H. Wolcott of Nebraska University, have given data from their observations made prior to my own work. Miss Ellen Dean,

Burton E. Livingston, C. W. Fallass, H. W. Hyser, and R. E. Matteson, have assisted me in various ways.

I am indebted to the courtesy of the following gentlemen for assistance within the line of their official work: W. L. Moore, Chief of the United States Weather Bureau at Washington, D. C., and C. F. Schneider, of the Michigan Section of that Bureau, for meteorological data for the city of Grand Rapids and the Lower Peninsula of Michigan; to Dr. A. C. Lane, State Geologist; to Mr. Frank Leverett of the United States Geological Survey, and Mr. J. F. Nellist of this City, who have assisted Dr. Lane upon local geology. They, with many others, have kindly contributed notes or specimens which have assisted in the preparation of the work.

It is a special pleasure to recall and acknowledge the help of the pupils of the Grand Rapids High School.

CLIMATIC INFLUENCE AND DISTRIBUTION.

The City of Grand Rapids, picturesquely situated in the Grand River Valley, on Grand River, has a latitude of 42.96° N., and a longitude of 85.66° W.

The climate of the Lower Peninsula of Michigan is greatly modified by the surrounding lakes. They render the temperature milder in the winter and more uniform in the summer.

The central part of the district is about 32 miles east of Lake Michigan, and has the advantage of being on the milder side of the State. It is also in the center of the "peach district." That this fruit can be grown here so successfully is regarded as due to climatic influences rather than to the nature of the soil.

The western side of the State is warmer than a corresponding latitude on the eastern side, owing to the southwesterly winds across Lake Michigan. The annual range of temperature for the City of Grand Rapids is 116° . The annual mean for a series of ten years is 46.9° . On an average, the first severe frost is about the last of September; the last, about the first of May.

The average rain-fall, including that in the form of snow, from 1870 to 1899 was 36.55 inches. Grand River at Fulton Street Bridge is 8 feet above Lake Michigan and 588 feet above the sea. The eastern bluffs measure at the Stand Pipe 170 feet above Lake Michigan.

Under these favorable climatic conditions we find trees and lesser plants, such as the tulip-tree, mulberry, papaw, pepperidge, Judas-tree, Kentucky coffee-tree, flowering dogwood, etc., which belong to Ohio, Central Illinois, and even further south, maintaining themselves in the Grand River Valley and the western part of the State.

It is in the valley of Grand River that the northern and southern floras of the State overlap, as may be seen by the following lists:

NORTHERN SPECIES.

<i>Acer spicatum.</i>	<i>Erysimum cheiranthoides.</i>
<i>Arctostaphylos Uva-Ursi.</i>	<i>Juncus Canadensis coarctatus.</i>
<i>Carex pauciflora.</i>	<i>Lonicera oblongifolia.</i>
<i>" tenuiflora.</i>	<i>Polygonum cilinode.</i>
<i>Clintonia borealis.</i>	<i>Prunus pumila.</i>
<i>Cornus Canadensis.</i>	<i>Rosa blanda.</i>
<i>Epilobium lineare.</i>	<i>Scirpus pauciflorus.</i>
<i>Eriophorum gracile.</i>	<i>Taxus Canadensis.</i>
<i>" vaginatum.</i>	

SOUTHERN SPECIES.

<i>Asclepias verticillata.</i>	<i>Eleocharis olivacea.</i>
<i>Asimina triloba.</i>	<i>Eragrostis pectinacea spectabilis.</i>
<i>Blephilla hirsuta.</i>	<i>Erigenia bulbosa.</i>
<i>Bouteloua racemosa.</i>	<i>Gymnocladus Canadensis.</i>
<i>Carya alba.</i>	<i>Hemicarpha subsquarrosa.</i>
<i>" amara.</i>	<i>Kuhnia eupatorioides.</i>
<i>" microcarpa.</i>	<i>Liatris spicata.</i>
<i>" porcina.</i>	<i>Liriodendron Tulipifera.</i>
<i>Cassia Marylandica.</i>	<i>Medeola Virginiana.</i>
<i>Cercis Canadensis.</i>	<i>Morus rubra.</i>
<i>Chaerophyllum procumbens.</i>	<i>Nyssa sylvatica.</i>
<i>Collinsia verna.</i>	<i>Ptelea trifoliata.</i>
<i>Cornus florida.</i>	<i>Silphium terebinthinaceum.</i>
<i>Coreopsis trichosperma tenuiflora.</i>	<i>Solea concolor.</i>
<i>Desmodium Illinoense.</i>	<i>Sporobolus cryptandrus.</i>
<i>" Marylandicum.</i>	<i>Synthyris Houghtoniana.</i>

Desmodium sessilifolium.
Draba Caroliniana.
Eleocharis mutata.

Tradescantia Virginica.
Utricularia resupinata.
Zizia cordata.

GEOLOGY, TOPOGRAPHY, AND SOIL.

Geologists have demonstrated that the Lower Peninsula of Michigan is made up of layer upon layer of different kinds of rocks formed as sediment, or mud deposit, when Michigan was part of the great ocean.

These rocks lie horizontally one upon the other, with Gratiot County as a center. They rest upon a foundation of Archaean rocks, and in the central part of the State they are many thousand feet thick. The upper and less extensive rocks were formed during the Coal Period. The sedimentary rocks represent, with the greatest regularity of position, nearly all the known formations of this continent, from the Cambrian, which is near the base of the rock series, to the latter part of the Carboniferous Period, whose rocks are well up towards the top of the series. Grand Rapids is situated near the edge of the Subcarboniferous series.

After an interval, when Michigan had become dry land and these strata had been cut by river valleys, came the Glacial Period, or Ice Age, when vast sheets of ice moved from the north slowly southward as far as the vicinity of the Ohio River. They bore a great amount of debris—rock, gravel, sand, etc., from the largest boulders to the finest clay, and covered the entire peninsula with a thick deposit, called by geologists the glacial drift. In places the deposit is a commingled mass of rock-fragments of all sizes imbedded in the clay, while in others it consists largely of material which has been assorted by water, i. e., sand and gravel.

Of the glacial, or surface, geology, Dr. A. C. Lane says: "The ice front formed three lobes, one of which, the Lake Michigan lobe, came up Lake Michigan; another, the Saginaw Bay lobe, came up Saginaw Bay; and a third, the Huron-Erie lobe, extended south-west from lakes Huron and Erie, covering the southeastern part of the State. Between each two lobes there was an angle

pointing north and draining south, which carried away the water from the melting ice, and at the same time deposited vast beds of sand and gravel. The line of the discharge of the sand and gravel between the Saginaw and Lake Michigan lobes was extended northward as the ice melted back, and passed from near Kalamazoo up to the City of Grand Rapids, and thence north-east and north up beyond Grayling."

In the process of melting away, the ice front seems to have made stops or halts. The successive halts of the ice front are marked by massive ridges composed of till, or stony clay, boulders, gravel, and sand, which are called moraines. These sweep around Saginaw Bay, and connect on the west with ridges that pass southward or southwestward toward the head of Lake Michigan, and on the east with ridges that lead southwestward from the Thumb (between Saginaw Bay and Lake Huron) across the southeastern part of Michigan and northwestern corner of Ohio into Indiana. The position of these morainic ridges has been only partly worked out, and their mapping is now in progress. Dr. Lane and his assistants of the State Survey have covered part of the State, while Messrs. Leverett and Taylor of the United States Survey have recently cooperated with Dr. Lane to complete the mapping. The following upon the glacial drift and surface features of this vicinity has been contributed by Mr. Leverett who has examined the region around Grand Rapids:

"The features are somewhat intricate but they fall in naturally with the view that there was a junction of two lobes in this vicinity. When the ice extended nearly to the southern border of Michigan, the junction between the Saginaw and Lake Michigan lobes was in a great belt of gravel that is traversed by the Grand Rapids and Indiana Railroad south from Kalamazoo, and the point of the reentrant angle was in the great ridges south-east of Gun Lake.

"From this position the ice melted back until the point of the reentrant angle between the ice lobes was at the Dias Hills, a few

miles south of Grand Rapids, and there a halt of some length occurred. The gravel tract between Dias Hills and Gun Lake was formed at that time.

"The ice then melted back sufficiently to bring the reentrant angle up to the bend of Grand River at Plainfield, and again halted. At that time the Lake Michigan lobe formed the ridges and hills that lie on the west side of Grand River from Rockford to Jenison, and its margin continued southward past Jamestown. The Saginaw lobe at the same time covered the region immediately east of Grand Rapids, its margin being in the eastern edge of the City; and it built up the rolling country around Reed's Lake, and its continuation in districts to the north and south. Meantime, the water found its escape southward over the site of Grand Rapids, and on through the gravelly lowland that leads past Carlisle to the Black Ash Swamp, and thence to the pine plains of western Allegan County, where it entered Lake Chicago, a lake that then filled the south end of the Lake Michigan Basin and discharged south-west past Chicago to the Illinois and Mississippi Rivers.

"In melting back from this position, the ice next made a stand near Cedar Springs, and built up the prominent ridges north-east of that village. From these ridges the margin of the Saginaw lobe passed east of south near Nagle Lake to Grand River below Lowell and thence on past Alto, while the margin of the Lake Michigan lobe passed south-west near Sparta and Englishville and formed the western part of the great belt of rolling land west of Grand Rapids.

"At length after several halts that need not be enumerated here, the Saginaw lobe had melted so far back that its front was on the slope toward Saginaw Bay. A lake then formed in front of it, known as Lake Saginaw, which discharged down Maple River to Grand River at Lyons and thence on past Grand Rapids into Lake Chicago. The channel divided near Jenison, one branch turning down the present river to enter Lake Chicago near Lamont, while

the other led south-west past Hudsonville to enter the lake at Zeeland. Great gravelly deltas were formed by each branch of the old outlet at the places where they entered the lake. Much of Allendale Township, Ottawa County, is in the delta of the north branch, while Zeeland stands on the delta of the south branch. As these gravelly deposits are now 60 or 70 feet above Lake Michigan, it is certain that the level of Lake Chicago was about that height above the present lake. Later it dropped to lower levels, and the outlet of Lake Saginaw along Grand River Valley became correspondingly deepened.

"The variations in the drift material gave rise to several classes of soil ranging from heavy clay through loamy clay, clayey loam, sand, and gravel, up to coarse cobble. It is usual, however, to find in gravelly places a sufficient amount of fine earthy material to afford a suitable matrix for plant roots.

"Perhaps the coarsest deposit within the Grand Rapids district is that in the old lake outlet. Between the City and Grandville the current of water removed the fine material to such a degree that the soil is very stony. In the western part of Grand Rapids and for some miles above the City large numbers of boulders were present in this outlet before the residents made use of them in building. The soil among the boulders was, however, not too coarse for plants to thrive. This same lake outlet carries also some of the most extensive swampy tracts in the district; the Zeeland Swamp south-west of Hudsonville, the Cedar Swamp west of Jenison, and the Burton Avenue Swamp south-west of South Grand Rapids, being illustrations. But this swampy condition is due to subsequent plant growth in the part of the channel having exceptionally flat bottoms, rather than to any deposit made by the outlet. It is found that sand and gravel deposited by the lake outlet underlie all the swamps at a depth of only a few feet.

"The strip of gravelly sand which extends from the bend of Grand River near Plainfield southward along the east side of Grand River through Grand Rapids and to Carlisle, being in the line of a

stream of water, carries but a small amount of clayey or fine material, and is less productive than the heavier soils on the borders of this old stream course. In the immediate vicinity of Grand Rapids it has the further disadvantage of being situated on the border of a deep valley into which the water drains rapidly after a rain. The lightness of the soil is shown in the character of the vegetation, it being a strip of "oak openings" whose flora is described below. In this old stream course, the extensive Black Ash Swamp has been developed; but, as in the lake outlet, this is due to subsequent plant growth, and sand may be found by probing to a depth of a few feet.

"The grade of soil next finer than the gravelly sand of the old stream courses is the sand found on the bluffs of Grand and Thornapple Rivers above the bend at Plainfield and on the border of several small tributaries of Grand River, both above and below Grand Rapids. These sandy deposits have apparently in some cases been drifted by wind beyond the limits of the streams that contributed them, being very irregular and patchy.

"The greater part of the Grand Rapids district lies on uplands that were feebly or imperfectly acted upon by currents of water during the melting of the ice sheet. As a consequence, the soils contain a large amount of fine material together with the coarse stones of the drift. The proportion of fine material determines whether it is a heavy clay, a porous clay, or a loamy soil, and this proportion often varies greatly within the limits of a small field. In these uplands there are numerous basins formed by the irregular heaping of the drift, aided perhaps by unequal settling of the drift material. These, because of imperfect drainage, usually contain either lakes or swamps. The basins are especially numerous in Grand Rapids Township from Reed's Lake northward, but are not rare in any part of the uplands of this district."

The indurated rock formations which underlie the drift have furnished much of its material and are, therefore, of much importance in a study of the soil.

In the northern part of the City, along Grand River, subcarboniferous limestone lies above the gypsum, and crops out in the bed of the River. In the southern part of the City and south-west to Grandville, the gypsiferous series of shales, hydraulic limestone and gypsum, is uppermost, and comes to the surface at the mouth of Plaster Creek. Rapid variations in the altitude of the rock surface make it evident that the limestone is much eroded.

In section 19, Paris Township (near the "brick school-house" on South Division Street) a ledge of this subcarboniferous limestone crops out and is traceable for a mile northward and again appears half a mile to the south. About a mile north-east of the school-house, it lies 30 feet below the surface, then dips to the north 200 feet to the mile.

The fertility of some of the sandy soils of this district is thought to be due in some degree to the presence of gypsum fragments in them. The pulverized limestone also has, no doubt, contributed to the enrichment of this area, disseminated as it has been through the drift.

THE FLORA OF GRAND RAPIDS AND VICINITY.

In the western and southern part of the district, beech and maple timber predominate, while in the eastern, the oaks are the chief forest trees. The low lands are wooded with red maple, hackberry, elm, black ash, burr oak, swamp oak, sycamore, black willow, butternut, walnut, viburnums, dogwoods, etc. As this district is just within the southern limits of the pine region, white pine from single trees to groves of considerable extent is intermingled with the hard wood. The largest tracts were formerly about Mill Creek, in the eastern part of Alpine, in the center of Georgetown, and east of Fisher Station; but they have been cut for timber. All the sections previously mentioned, however, are more or less intermingled and pass into one another.

Since the district has become more thickly settled, it is undergoing rapid transformations. Much of the swamp land is being

drained, cleared, and utilized; forests are being deprived of their valuable timber, and uplands converted into farms. The woodlands at present consist mostly of the "wood-lot" reserved by the farmer.

From the standpoint of systematic botany, this district is unfortunate in having so little territory which is not capable of cultivation.

Some of the most interesting collecting grounds with their characteristic floras are worthy of mention. In the "oak openings" in and near the City, one is sure to discover the following plants:

<i>Andropogon furcatus.</i>	<i>Lespedeza capitata.</i>
" <i>scoparius.</i>	" <i>polystachya.</i>
<i>Anemone Hepatica.</i>	<i>Lupinus perennis.</i>
<i>Aster laevis.</i>	<i>Monarda fistulosa.</i>
" <i>macrophyllus.</i>	<i>Panicum depauperatum.</i>
<i>Danthonia spicata.</i>	" <i>dichotomum.</i>
<i>Carex Pennsylvanica.</i>	<i>Potentilla simplex.</i>
<i>Ceanothus Americanus.</i>	<i>Pteris aquilina.</i>
<i>Comandra umbellata.</i>	<i>Pyrola elliptica.</i>
<i>Cornus candidissima.</i>	<i>Rubus Canadensis.</i>
<i>Desmodium nudiflorum.</i>	<i>Salix humilis.</i>
" <i>paniculatum.</i>	<i>Sassafras officinale.</i>
<i>Galium boreale.</i>	<i>Solidago nemoralis.</i>
<i>Helianthus divaricatus.</i>	<i>Viburnum pubescens.</i>
<i>Krigia amplexicaulis.</i>	<i>Vicia Americana.</i>
<i>Lechea major.</i>	<i>Viola pedata.</i>

THE SADDLE-BAG SWAMP REGION.

This swamp lies about five miles east of the City. It was drained and burned in 1895. Although the term Saddle-Bag Swamp is applied in this work only to the immediate vicinity of the Twin Lakes, the term Saddle-Bag Swamp region is used to cover about 1000 acres, and includes seven small lakes which the draining has lowered: Bailey, Carmody, Frawley, Swamp, Twin Lakes, and Webster. These lakes were formerly surrounded by open sphagnum bogs which gradually passed into sphagnum swamp, overgrown with tamarack, black spruce, mountain holly, leather-leaf, and huckleberry brush. Here were found the following species:

<i>Andromeda polifolia.</i>	<i>Habenaria psycodes.</i>
<i>Calla palustris.</i>	<i>Ledum Groenlandicum.</i>
<i>Calopogon pulchellus.</i>	<i>Menyanthes trifoliata.</i>
<i>Carex tenella.</i>	<i>Microstylis ophioglossoides.</i>
" <i>tenuiflora.</i>	<i>Phragmites communis.</i>
<i>Cypripedium acaule.</i>	<i>Pogonia ophioglossoides.</i>
<i>Drosera intermedia Americana.</i>	<i>Potentilla palustris.</i>
" <i>rotundifolia.</i>	<i>Ribes rubrum.</i>
<i>Glyceria pallida.</i>	<i>Salix candida.</i>
<i>Habenaria blephariglottis.</i>	" <i>myrtilloides.</i>
" <i>hyperborea.</i>	<i>Sarracenia purpurea.</i>
" <i>lacera.</i>	<i>Vaccinium macrocarpon.</i>
" <i>leucophaea.</i>	" <i>Oxycoccus.</i>

It is to be regretted that the sedges of this interesting region were not better known before its devastation.

LAMBERTON LAKE REGION.

The lake regions north of the City have always proved attractive fields to collectors. The Lamberton Lake region consists of an almost unbroken chain of lakes or marshes, enclosed by bluffs of sand loam, wooded with oak. The lakes are Lamberton and Mud Lakes with their creek regions; Round with its marsh; Button, Soft-water, and Morgan. These lakes are bordered by open marshes either of sphagnum or muck underlaid by some marl. Much marsh land about Lamberton and Round Lakes has been reclaimed by deepening Lamberton Creek and thus lowering the lakes. The marshes are overgrown with sedges and low shrubby plants; as, shrubby St. John's-wort, dwarf birch, low willows, etc. This lake region is the home of the following species:

<i>Andromeda polifolia.</i>	<i>Linaria Canadensis.</i>
<i>Arenaria stricta.</i>	<i>Panicum flexile.</i>
<i>Cardamine pratensis.</i>	<i>Pogonia ophioglossoides.</i>
<i>Calopogon pulchellus.</i>	<i>Polygala paucifolia.</i>
<i>Carex aquatilis.</i>	<i>Quercus prinoides.</i>
" <i>flava.</i>	<i>Rhynchospora capillacea leviseta.</i>
" <i>monile.</i>	<i>Sarracenia purpurea.</i>
" <i>Tuckermanni.</i>	<i>Scirpus pauciflorus.</i>
<i>Crataegus rotundifolia.</i>	<i>Scleria verticillata.</i>
<i>Cypripedium acaule.</i>	<i>Solidago Ohioensis.</i>
" <i>candidum.</i>	" <i>Riddellii.</i>
<i>Drosera intermedia Americana.</i>	<i>Spiraea tomentosa.</i>
" <i>rotundifolia.</i>	<i>Synthyris Houghtoniana.</i>

INTRODUCTION.

XVI

<i>Eriophorum gracile.</i>	<i>Triglochin palustris.</i>
" <i>vaginatum.</i>	" <i>maritima.</i>
<i>Festuca tenella.</i>	<i>Utricularia cornuta.</i>
<i>Habenaria Hookeriana.</i>	" <i>gibba.</i>
" <i>hyperborea.</i>	" <i>intermedia.</i>
<i>Hemicarpha subsquarrosa.</i>	" <i>minor.</i>
<i>Hypericum Ascyron.</i>	<i>Viola lanceolata.</i>
<i>Krigia Virginica.</i>	" <i>sagittata.</i>

CROOKED LAKE REGION.

This region lies one mile north-east from the Lamberton Lake region, and includes Perch Lake and Crooked Lake, the latter being now in two distinct parts. This region is surrounded by a narrow marsh, and beyond by hills of sand loam. Many of the species in the Lamberton Lake region are found here, those differing are:

<i>Asclepias verticillata.</i>	<i>Nymphaea odorata.</i>
<i>Carex Sartwellii.</i>	<i>Physalis Virginiana vulgaris.</i>
<i>Cyperus Engelmanni.</i>	<i>Psilocarya scirpoides.</i>
" <i>speciosus.</i>	<i>Rhynchospora macrostachya.</i>
<i>Eleocharis olivacea.</i>	<i>Scirpus Smithii.</i>
<i>Fuirena squarrosa pumila.</i>	<i>Stachys hyssopifolia.</i>

THE REED'S LAKE REGION.

This region includes Reed's Lake and Fisk Lake. On the margin of Reed's Lake in shallow water occur:

<i>Allisma Plantago.</i>	<i>Pontederia cordata.</i>
<i>Decodon verticillatus.</i>	<i>Sagittaria arifolia.</i>
<i>Eleocharis mutata.</i>	" <i>latifolia.</i>
" <i>palustris vicens.</i>	" <i>rigida.</i>
<i>Equisetum limosum.</i>	<i>Scirpus lacustris.</i>
<i>Heteranthera graminea.</i>	" <i>pungens.</i>
<i>Nuphar advena.</i>	<i>Sparganium androcladum.</i>
<i>Nymphaea tuberosa.</i>	" <i>eurycarpum.</i>
<i>Peltandra undulata.</i>	" <i>simplex.</i>
<i>Phragmites communis.</i>	<i>Typha latifolia.</i>

In deeper water, such as the following:

<i>Bidens Beckii.</i>	<i>Potamogeton lonchites.</i>
<i>Brasenia peltata.</i>	" <i>lucens.</i>
<i>Ceratophyllum demersum.</i>	" <i>pectinatus.</i>
<i>Elodea Canadensis.</i>	" <i>perfoliatus.</i>
<i>Lemna trisulca.</i>	" <i>perfoliatus Richardsonii.</i>
<i>Myriophyllum spicatum.</i>	" <i>praelongus.</i>

Potamogeton amplifolius.	Potamogeton pusillus.
" foliosus.	" zosteræfolius.
" Friesii.	Ranunculus circinatus.
" lateralis.	

PINE HILL.

North of Cascade Springs is a precipitous bluff, 150 feet above the Thornapple River, composed chiefly of white sand. Here are found:

Acerates viridiflora.	Polygonum tenue.
Asclepias obtusifolia.	Quercus Muhlenbergii.
Aster sericeus.	" prinoides.
Bouteloua racemosa.	Selaginella rupestris.
Cornus circinata.	Solidago rigida.
Eragrostis pectinacea spectabilis.	" rigidiuscula.
Juniperus Virginiana.	Sporobolus cryptandrus.
Monarda punctata.	Synthyris Houghtoniana.
Pentstemon pubescens.	Zizia cordata.

BURTON AVENUE SWAMP.

This swamp extends south-west from South Grand Rapids. At present it covers about 500 acres. Its width varies from one half to three fourths of a mile. The portion south of Burton Avenue is a sphagnous bog (called Orchid Swamp), sparingly overgrown with low willows, shrubby St. John's-wort, poison sumac, and occasional tamarack. This passes into a swampy region which originally contained white pine, hemlock, and occasional arbor-vitæ, but in which, at present, black ash, yellow birch, and poison sumac predominate. This in turn is followed by a low swampy tract covered by a tangle of under-brush, mostly spice-bush; thence it passes into a white pine tract. The following species have their homes here:

Aplectrum hyemale.	Cypripedium spectabile.
Arethusa bulbosa.	Habenaria tridentata.
Calopogon pulchellus.	Ledum Groenlandicum.
Carex limosa.	Mitella nuda.
" pedunculata.	Poa flexuosa.
Clintonia borealis.	Ribes rubrum.
Corydalis glauca.	Salix candida.
Cypripedium parviflorum.	Viola blanda palustriformis.
" pubescens.	" lanceolata.

CEDAR SWAMP.

This swamp is in Georgetown and is very similar in the character of its flora to the preceding one. It extends about three miles in a semicircle, with a width of about one half mile, from Grand River toward Jenison.

THE ZEELAND SWAMP.

This noted swamp commences about one mile west of Hudsonville, passes through the north-west corner of Jamestown, and thence through Zeeland to Black Lake. Much of this swamp is now under cultivation and forms some of the most fertile land in Ottawa County. The portion near Hudsonville is not unlike the two swamps previously described, and is mentioned in the Catalogue as the "Hudsonville Swamp."

THE MILL CREEK WOODS.

This region lies north-west from the West Michigan Fair Grounds, and consists of a series of wooded hills intersected by ravines and creeks. It is wooded chiefly with white pine, interspersed with oak, birch, maple, and an occasional tulip-tree. The forest is northern in its character. Here grow:

<i>Aspidium Boottil.</i>	<i>Habenaria Hookeriana.</i>
<i>Bartonia tenella.</i>	" <i>hyperborea.</i>
<i>Clintonia borealis.</i>	" <i>orbiculata.</i>
<i>Cypripedium acaule.</i>	<i>Liriodendron Tulipifera.</i>
<i>Equisetum pratense.</i>	<i>Lycopodium complanatum.</i>
" <i>scirpoides.</i>	<i>Medeola Virginiana.</i>
" <i>sylvaticum.</i>	<i>Monotropa Hypopitys.</i>

PLAINFIELD VILLAGE BLUFFS.

North of Plainfield Village and near Grand River is found a range of bluffs, above which is a level plain. Back of this plain extends another range and then a level region. The first range forms an immediate background to the Village, and the first level is nearly 90 feet above Lake Michigan. The second range is about a mile distant, surmounted by a level about 190 feet above the Lake. The first bluff faces south and remains, for the most part, in its primitive condition. Its soil is of a dry grav-

elly loam, and here still lingers a most interesting group of plants, a list of which is given below. The portion of this district north-east from the Village is known as "the prairie," and prior to settlement by the whites, was utilized by the Indians for their cornfields.

<i>Acerates viridiflora.</i>	<i>Eragrostis pectinacea spectabilis.</i>
<i>Amorpha canescens.</i>	<i>Kuhnia eupatorioides.</i>
<i>Asclepias obtusifolia.</i>	<i>Linum sulcatum.</i>
<i>Aster multiflorus.</i>	<i>Monarda punctata.</i>
<i>Bouteloua racemosa.</i>	<i>Pentstemon pubescens.</i>
<i>Cercopsis lanceolata.</i>	<i>Quercus Muhlenbergii.</i>
<i>Desmodium illinoense.</i>	<i>Solidago rigida.</i>
<i>sessilifolium.</i>	

The richest part of the district lies, however, within the northern arch of Grand River and north of a line drawn from Grandville east to the River. There are only about forty plants indigenous to the district covered by this work, which do not occur here. Second to this are the collecting grounds about the lakes in Plainfield and Cannon.

Weeds form a conspicuous part of the flora of any comparatively well settled district, and especially is this true about a large city. Our flora contains about twenty-three native species which may be considered weeds and seventy which are introduced, chiefly from Europe.

Of plants generally called poisonous, we have four—the stinging nettle, wood nettle, poison ivy, and poison sumac.

It is hoped that all collectors will use the utmost care in protecting and preserving those plants which are becoming scarce within the district. Experienced collectors who feel the true spirit of the work, do not need cautioning, but the young and inexperienced often need to be restrained in their enthusiasm. A good maxim is: Consider every plant *rare* until it is known with certainty to be abundant. I hope that all persons finding any plant not mentioned in this Catalogue, or new stations for plants marked rare, local, scarce, or infrequent, will kindly report such at once to me.

The following species are known to be disappearing:

INTRODUCTION.

XX

<i>Arethusa bulbosa.</i>	<i>Habenaria blephariglottis.</i>
<i>Castilleja coccinea.</i>	" <i>ciliaris.</i>
<i>Cypripedium acaule.</i>	<i>Hibiscus Moscheutos.</i>
" <i>candidum.</i>	<i>Jeffersonia diphylla.</i>
<i>Geum triflorum.</i>	

The following species have apparently disappeared:

<i>Echinacea purpurea.</i>	<i>Microstylis ophioglossoides.</i>
<i>Habenaria leucophaea.</i>	<i>Pogonia verticillata.</i>
<i>Ledum Groenlandicum.</i>	

The following species are found on the shores of the Great Lakes, and occasionally occur in this district:

<i>Aster ericoides.</i>	<i>Monarda punctata.</i>
<i>Geranium Robertianum.</i>	<i>Potamogeton perfoliatus Richardsonii.</i>
<i>Gerardia purpurea.</i>	<i>Polygonella articulata.</i>
<i>Hibiscus Moscheutos.</i>	<i>Salix glaucophylla.</i>
<i>Hypericum Kalmianum.</i>	<i>Sisymbrium canescens.</i>
<i>Juncus Balticus.</i>	

The following species have been reported from no other locality in the State:

<i>Bromus tectorum.</i>	<i>Pentstemon laevigatus.</i>
<i>Mentha rotundifolia.</i>	<i>Psilocarya scripoides.</i>
<i>Myriophyllum tenellum.</i>	<i>Solidago tenuifolia.</i>
<i>Onoropordon Acanthium.</i>	<i>Verbena stricta.</i>
<i>Oxybaphus hirsutus.</i>	<i>Viola pedata bicolor.</i>
<i>Panicum commutatum.</i>	

SUMMARY OF SPECIES ENUMERATED IN THE CATALOGUE.

I.	Plants native to the Grand Rapids Flora,.....	1111
II.	Plants introduced into the Grand Rapids Flora,..	176
III.	Plants not discovered in the district but found just outside its limits,.....	8
Total number of plants,.....		1290
IV.	Plants introduced from the Old World,.....	152
V.	Plants introduced from other sources,.....	24
VI.	Of the introduced plants enumerated above, there are that are spontaneous but not considered established.	27

PLAN OF THE CATALOGUE.

The names of the species supposed to be indigenous to the New World are printed in **heavy faced type**. The names of the plants supposed to be introduced from the Old World are printed in SMALL CAPITALS.

The nomenclature followed, in the main, is that of the Index Kewensis. The names used in the sixth edition of Gray's Manual, when they differ essentially from the names in the Kew Index, are given in parentheses. The nomenclature of the Illustrated Flora, by Britton and Brown, has been added in *italics* when it differed from that given in the Kew Index; but where this change is simply a "gender ending" of a specific name, it has been omitted.

In reference to the occurrence of a plant in its proper habitat the terms, common, frequent, infrequent, occasional, local, and rare, are used to express relative abundance. The last two need some explanation. Local, plentiful at the station, but the stations few; rare, not more than four stations, and the plants few at each.

Plants without a catalogue number are supposed not to be established. *

The dates of the flowering of plants are given as aids in collecting. They were obtained from my notes on six successive years' observations averaged with dates taken from the herbariums mentioned.

The term City, in the Catalogue, always refers to the City of Grand Rapids—Grand Rapids, in every case, applies to the township. The township name is used alone; as, Ada, etc. If a village has the same name as the township, it is so specified; as, Ada Village.

In all cases I have endeavored to give proper credit by initials or name to the discoverer of a new plant or a new station for an infrequent, local, or rare one. When no name appears, the plant has come under my own personal observation, and is contained in my herbarium.

*Three are inserted which grow near the border of the district.

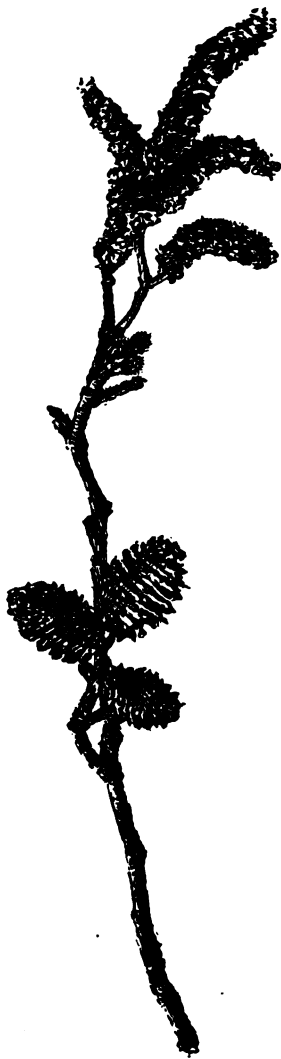
In all cases when the diameters of trees are given, the measurements were made three feet above the ground.

The following localities need special mention: The Fish Pond, on Hogadone Road near Butterworth Avenue; the Plaster Cave, near the Eagle Plaster Mills; Feakin's Marsh, north of Plaster Creek on Buchanan Street, South Grand Rapids.

EMMA J. COLE,

January, 1901.

Grand Rapids, Michigan.



By a leafless wood
An old alder stood,
Its cone-tufted branches gray and cold,
Till the breath of spring
Did over them fling
Soft brown catkins powdered with gold.

The young sisters neat,
Close at their feet,
Sat modest, unheeded, and small,
While tossing his head,
A gay catkin said,
"I am noticed and prized by all."

Alas, for his pride!
'Tis soon cast aside--
Poor and plain in the dust he hides:
While cone sister grew,
And unceasingly true,
Through the long changing year abides.

CATALOGUE OF PLANTS.



Throughout the Catalogue the following initials refer to notes and herbariums.

(F.) C. W. Fallas.

(B. E. L.) B. E. Livingston.

(S. O. L.) S. O. Livingston.

(M. & C.) W. E. Mulliken and L. J. Cole.

(O. H.) H. C. Skeels and Miss. J. Shaddick.

(S.) G. D. Sones.

M. A. C. Michigan Agricultural College.

U. of M. University of Michigan.

PTERIDOPHYTA.

SPORE-BEARING PLANTS.

OPHIOGLOSSACEAE. ADDER'S-TONGUE FAMILY.

BOTRYCHIUM Swartz. MOONWORT.

1. **B. ternatum** Swartz.

Moist soil; scarce. Aug.—Nov.

Mill Creek woods (O.H.); near Caledonia Village.

2. **B. Virginianum** Swartz.

Rich woods; frequent. June—July.

FILICES. FERN FAMILY.**ADIANTUM L. MAIDENHAIR.**3. **A. pedatum L.**

Common in rich moist woods. July-Aug.

A general favorite.

ASPIDIUM Swartz. SHIELD FERN.

Dryopteris Adans.

4. **A. acrostichoides Swartz. Christmas Fern.**

Moist woods and hillsides; common. July-Aug.

The evergreen fronds are used for decorative purposes.

5. **A. Boottii Tuckerm.**

In alder thickets; rare. July-Aug.

Mill Creek woods (O.H.).

6. **A. cristatum Swartz.**

Swamps and boggy marshes; infrequent. July-Aug.

Farm of J. R. Wade, Sec. 29, Caledonia; Sec. 28, Vergennes;

Secs. 14 and 25, Jamestown.

7. **A. Goldianum Hook.**

Beech and maple woods; occasional. July-Aug.

Sec. 14, Jamestown; Fisher Station; banks of Grand River at Soldiers' Home woods, West Bridge St. Ferry, Boynton's Landing.

8. **A. marginale Swartz.**

Rich woods and hillsides; frequent. Aug.-Sept.

The evergreen fronds are used by florists.

9. **A. Noveboracense Swartz.**

Moist woods and thickets; occasional. July-Aug.

Banks of the Thornapple River; Fisher Station; Walker; Alpine;

Sec. 14, Jamestown; S. B. Smith's woods, Sec. 14, Grand Rapids.

10. **A. spinulosum Swartz.**

Rich woods; common. Aug.-Sept.

11. **A. spinulosum intermedium** D.C. Eaton.
Growing with the species; common. Aug.-Sept.
12. **A. Thelypteris** Swartz.
Swamps and low grounds; common. July-Aug.

ASPLENIUM L. SPLEENWORT.

13. **A. angustifolium** Michx.
Rich moist woods; occasional. July-Aug.
Sec. 14, Jamestown; Byron Center; Sec. 25, Byron; clay ravines, Sec. 5, Georgetown; woods south of Reed's Lake; Walker; Soldiers' Home; West Bridge St. Ferry.
14. **A. Filix-foemina** Bernh.
Common in rich moist woods and shaded ravines. July-Aug.
Exceedingly variable.
15. **A. thelypteroides** Michx.
A. acrostichoides Swartz.
Beech and maple woods; local. July-Sept.
Woods of S. S. Towner, Byron Center; Sec. 14, Jamestown.

CYSTOPTERIS Bernh. BLADDER FERN.

16. **C. bulbifera** Bernh.
Shady banks along streams; frequent. July.
17. **C. fragilis** Bernh.
Frequent on mounds in wet woods. June-July.

ONOCLEA L.

18. **O. sensibilis** L. Sensitive Fern.
Moist soil; common. Sept.-Nov.
19. **O. Struthiopteris** Hoffm.
Rich moist woods; infrequent. Aug.-Oct.
Sec. 14, Jamestown; Hudsonville; banks of Grand River at Grandville, West Bridge St. Ferry, Plainfield Village.
A stately fern.

OSMUNDA L. FLOWERING FERN.

20. **O. cinnamomea** L. Cinnamon Fern.
Wet places; common. Mid-May-June.
21. **O. Claytoniana** L.
Common in swamps. Mid-May-June.
22. **O. regalis** L. Flowering Fern.
Swamps; common. Mid-May-June.
Forms showing transition stages between fertile and sterile fronds are frequent.

PHEGopteris Fée. BEECH FERN.

23. **P. hexagonoptera** Fée.
In beech woods; occasional. July-Aug.
John Ball Park, City; West Bridge St. Ferry; Farm of M. J. Schench, Cascade Gravel Road, Sec. 5, Cascade; Byron Center.

PTERIS L. BRAKE OR BRACKEN.

24. **P. aquilina** L. Common Brake.
Copses; common. Aug.-Sept.

WOODWARDIA Smith. CHAIN-FERN.

25. **W. Virginica** Smith.
Swamps; especially common in and about huckleberry swamps.
July-Aug.
Saddle-Bag Swamp region; Lamberton Lake region; Bronner Lake; Vergennes; Ada.

EQUISETACEAE. HORSETAIL FAMILY.**EQUISETUM L. HORSETAIL. SCOURING RUSH.**

26. **E. arvense** L. Common Horsetail.
Moist gravelly or sandy soil; especially common along railroad embankments. Mid-April-May.

27. **E. hyemale** L. Scouring-Rush. Shave-Grass.
Wet banks; common. June.
28. **E. laevigatum** A. Braun.
Moist soil; rare. June.
Wallen's Tannery, City (O.H.).
29. **E. limosum** L.
E. fluviatile L.
In shallow water; common. June.
30. **E. palustre** L.
Cold springy bogs in Cedar Swamp (Weatherwax Part). Rare.
July.
31. **E. pratense** Ehrh.
Moist sandy woods; rare.
Mill Creek woods (O.H.); Stafford Lake; Farm of Chas. Barkley, Sec. 15, Ada.
It has never been found in fruit here.
32. **E. robustum** A. Braun.
In wet places; infrequent. June-July.
East end of Reed's Lake; Pine Island Lake; Plainfield Village;
woods near the Glue Factory.
33. **E. scirpoides** Michx.
Mill Creek woods (O.H.). Rare. June.
Near its southern limits.
34. **E. sylvaticum** L.
Moist sandy woods and thickets; local. April-May.
Mill Creek woods; Farm of Chas. Barkley, Sec. 15, Ada; Farm
of Mr. Gormley, Sec. 2, Walker; East St. Pinery.
It fruits sparingly. Near its southern limits.

35. **E. variegatum** Schleicher.

Moist soil; rare. June–July.

Wallen's Tannery, City; G. R. & I. Ry., near Burton Ave.
(O.H.); Silver Lake.

LYCOPODIACEAE. CLUB-MOSS FAMILY.**LYCOPODIUM** L. CLUB-MOSS.36. **L. clavatum** L. Common Club-Moss.

In dry woods; scarce. June.

Banks of Buck Creek, near Grandville; clay ravines, Sec. 5
Georgetown.

37. **L. complanatum** L. Ground-Pine.

In woods and thickets with pine; infrequent. July.

Mill Creek woods; Upper River Road; bluffs along Scotch Creek.

38. **L. lucidulum** Michx.

Cold moist woods; occasional. Aug.–Sept.

Burton Ave. Swamp; clay ravines, Sec. 5, Georgetown; Sec. 29,
Vergennes; Sec. 25, Jamestown.

39. **L. obscurum** L.

In moist woods; occasional. July–Sept.

East St. Pinery; Burton Ave. Swamp; Cedar Swamp.

SELAGINELLACEAE.**SELAGINELLA** Beauv.40. **S. apus** Spring.

Wet shaded places; frequent. June–July.

Pine Island Lake; Lamberton Lake; Campau Lake; Burton Ave.
Swamp; Wood Lake, etc.

41. **S. rupestris** Spring.

Dry sterile soil on Pine Hill; rare. Aug.–Oct.

SPERMATOPHYTA.

SEED-BEARING PLANTS.

*GYMNOSPERMAE.***CONIFERAE.** PINE FAMILY.**JUNIPERUS** L. JUNIPER.

- 42.
- J. communis**
- L. Common Juniper.

On the bluffs of Plaster Creek, near the Paris Town Hall. May.

- 43.
- J. Virginiana**
- L. Red Cedar. Savin.

Sterile bluffs. May.

Frequent along the Thornapple River and its tributaries.

LARIX Tourn. LARCH.

- 44.
- L. Americana**
- Michx. American or Black Larch. Tamarack.

L. laricina (Du Roi) Koch.

In cold swamps, and about lake margins; often forming tracts of many acres in extent. Last of April–Mid-May.

PICEA Link. SPRUCE.

- 45.
- P. nigra**
- Link. Black Spruce.

P. Mariana (Mill.) B.S.P.

A small tree growing in sphagnous swamps; not abundant. May. Spruce Lake; Mud Lake, Plainfield; formerly abundant in the Saddle-Bag Swamp region, now limited to the margins of Carmody and Frawley Lakes.

PINUS Tourn. PINE.

- 46.
- P. Strobus**
- L. White Pine.

In light soil and in swamps; frequent. June.

Formerly there were tracts of considerable size in the eastern part of Alpine, central Georgetown, and east of Fisher Station. What remains is intermingled with hard wood trees. A valuable lumber tree.

TAXUS Tourn. YEW.

47. **T. Canadensis** Willd. American Yew. Ground Hemlock.

T. minor (Michx.) Britton.

Moist cold woods with evergreens. A low straggling shrub.
Mid-April–Mid-May.

Abundant in Cedar Swamp (Weatherwax Part); Hudsonville;
Sec. 25, Jamestown.

THUYA L. ARBOR VITAE.

48. **T. occidentalis** L. Arbor Vitae. White Cedar.

Along streams, and in cold swamps. First of May.

A fair sized tree, and tracts are often of several acres in extent.
The timber is used for fence posts, telegraph poles, etc.

Cedar Swamp; Burton Ave. Swamp; Hudsonville; Carlisle;
Bear Creek; shores of Mud Lake, Wright; Sec. 25, Jamestown;
Black Ash Swamp.

TSUGA Carrière. HEMLOCK.

49. **T. Canadensis** Carrière.

Woods; infrequent. June.

West Bridge St. Ferry; clay ravines, Sec. 5, Georgetown; Sec. 25,
Jamestown; Secs. 30 and 31, Byron; Burton Ave. Swamp. Trees
have been cut here within the last four or five years whose annu-
al rings show them to be 250–300 years old (B. E. L.).

ANGIOSPERMAE.**MONOCOTYLEDONES.****TYPHACEAE.** CAT-TAIL FAMILY.**SPARGANIUM** Tourn. BUR-REED.

50. **S. androcladum** Engelm.

Bogs and shallow water; common. July.

Thornapple River at Alaska; Reed's Lake; Fisk Lake.

51. *S. eurycarpum* Engelm.

In shallow water, streams, and lake borders; frequent. June.

52. *S. simplex* Huds.

In standing water in marshy places; common. Mid-June-July.

TYPHA Tourn. CAT-TAIL FLAG.

53. *T. latifolia* L. Common Cat-tail.

Marshy places; common. Mid-June-July.

NAIADACEAE. PONDWEED FAMILY.

NAIAS L.

54. *N. flexilis* Rostk. & Schmidt.

Common in lakes. Summer.

POTAMOGETON Tourn. PONDWEED.

[Dates under this genus refer to time of fruiting.]

55. *P. amplifolius* Tuckerm.

Abundant in Reed's Lake and Fisk Lake. July-Aug.

No floating leaves on deep water plants.

56. *P. foliosus* Raf. (*P. pauciflorus* Pursh.)

In ponds and streams. July-Aug.

Reed's Lake; Grand River (Prof. C. F. Wheeler).

57. *P. foliosus Niagarensis* (Tuckerm.) Morong.

(*P. pauciflorus Niagarensis* Gray.)

In running water. July-Aug.

Mill Creek near Alpine Station; Thornapple River at Cascade Springs and Alaska.

58. *P. Friesii* Ruprecht. (*P. mucronatus* Schrad.)

In still water. July-Aug.

Grand River; abundant in Reed's Lake.

P. mucronatus Schrad. does not occur in America.

59. *P. heterophyllus* Schreb.

Abundant in Pine Island Lake. Aug.-Sept.

60. ***P. heterophyllus graminifolius*** (Fries) Morong.
Found with the species. Aug.-Sept.
61. ***P. Illinoensis*** Morong.
Muddy banks of Rouge River at Plainfield Village. Aug.
62. ***P. lateralis*** Morong.
Abundant in Reed's Lake along the N.W. shore from Manhattan Beach to Lakeside Club House, growing in deep water (M. & C.). July.
63. ***P. lonchites*** Tuckerm. (*P. fluitans* Roth.)
Lake borders and slow streams; not infrequent. July-Aug.
Abundant in Reed's Lake; Saddle-Bag Swamp region; Grand River; Thornapple River.
64. ***P. lucens*** L.
Abundant in Reed's Lake. Aug.
65. ***P. natans*** L.
In shallow or deep water in lakes, ponds, and slow streams; common. July-Aug.
66. ***P. pectinatus*** L.
Thornapple River; Grand River; Reed's Lake; abundant. July-Aug.
67. ***P. perfoliatus*** L.
Abundant in Reed's Lake and in Grand River. July-Aug.
68. ***P. perfoliatus Richardsonii*** A. Bennett.
(*P. perfoliatus lanceolatus* Robbins.)
Found growing in abundance with the species. July-Aug.
69. ***P. praelongus*** Wulf.
Abundant in Reed's Lake, and in Little Bostwick Lake. Aug.-Sept.
70. ***P. pusillus*** L.
Abundant in Reed's Lake along the N. W. shore from Manhattan Beach to Lakeside Club House. Found growing with *P. lateralis*. July-Aug.

71. **P. Zizii** Roth.

Campau Lake. Aug.-Sept.

72. **P. zosteræfolius** Schum.

Abundant in Reed's Lake and in Grand River. July-Aug.

SCHEUCHZERIA L.73. **S. palustris** L.Sphagnous bogs at Mud Lake, Plainfield; Miller's Lake. Rare.
Mid-May-June.**TRIGLOCHIN** L. ARROW-GRASS.74. **T. maritima** L.Marl marshes and brackish places; occasional. Mid-June-July.
Marshes about Lamberton Lake; Mud Lake, Plainfield; Feakin's marsh.75. **T. palustris** L.

Marl marshes. July.

Abundant about Lamberton Lake; edges of marsh about the Salt Spring; Campau Lake; Pine Island Lake; Clear Lake.

ALISMACEAE. WATER-PLANTAIN FAMILY.**ALISMA** L. WATER-PLANTAIN.76. **A. Plantago** L.*A. Plantago-aquatica* L.

In shallow water and mud; common. July-Aug.

SAGITTARIA L. ARROW-HEAD.77. **S. arifolia** Nutt.

Mud and shallow water. July-Aug.

W. and S. shores of Reed's Lake (M. & C.); Grand River at Fulton St. Bridge, City.

78. ***S. cristata*** Engelm.

In shallow water along the "picnic grounds" of Pine Island Lake. Rare. (H. W. Hyser). Aug.

The second time its occurrence has been noted in the State.

79. ***S. graminea*** Michx.

Plentiful in mud or shallow water on the W. shore of Reed's Lake (O.H.). July-Aug.

80. ***S. latifolia*** Willd. (*S. variabilis* Engelm.)

In shallow water; common. July-Aug.

All the intermediate forms from broad leaves to narrow lobed leaves are found growing together.

81. ***S. rigida*** Pursh. (*S. heterophylla* Pursh.)

In mud and water on the W. shore of Reed's Lake. Aug.

HYDROCHARIDACEAE. FROG'S-BIT FAMILY.**ELODEA** Michx.*Philotria* Raf.82. ***E. Canadensis*** Michx. Water-weed.

Lake borders and slow streams; common. July-Aug.

VALLISNERIA L. TAPE-GRASS. EEL-GRASS.83. ***V. spiralis*** L.

In quiet water; common in Grand River and its larger tributaries. July-Aug.

GRAMINEAE. GRASS FAMILY.**AGROPYRON** Gaertn.84. ***A. caninum*** R. & S. Awned Wheat-Grass.

Frequent in oak openings. July-Aug.

85. ***A. glaucum*** R. & S.

James St., near Logan St., City (F.). Mid-June-July.

86. **A. repens** Beauv. Couch-, Quitch-, Quick-, or Quack-Grass.
Fields and waste places; common and exceedingly variable.
Mid-June-July.
87. **A. violaceum** Vasey.
Along the M. C. Ry. and G. R. & I. Ry., north of Burton Ave.,
City. Mid-June-July.
Probably not indigenous. It was discovered here in 1893, and
is increasing (R. E. Matteson).

AGROSTIS L. BENT-GRASS.

88. **A. alba** L. Fiorin or White Bent-Grass. Red-top.
Fields and roadsides; common and extremely variable. July-Aug.
89. **A. perennans** Tuckerm. Thin-Grass.
In moist woods; occasional. July-Oct.
Mill Creek woods; Spruce Lake; Vergennes; Ada; John Ball
Park, City. The latest Agrotis to flower.
90. **A. scabra** Willd. Hair-Grass.
A. hyemalis (Walt.) B.S.P.
In dry or moist soil; common. July-Aug.

ALOPECURUS L. FOXTAIL GRASS.

91. **A. geniculatus aristulatus** Torr.
In wet meadows; frequent. June-Aug.

ANDROPOGON L. BEARD-GRASS.

92. **A. furcatus** Muhl.
Light soil; common. Aug.-Oct.
93. **A. scoparius** Michx.
Growing with the preceding; common. Aug.-Oct.

APERA Adams.

94. **A. spica-venti** Beauv.
Edge of John Ball Park, City (Mrs. Mary B. Fallase), June, 1896.

ASPRELLA Willd.*Hystrix* Moench.

- 95.
- A. Hystrix**
- Willd. Bottle-brush Grass.

Moist or dry soil; common. July.

On dry soil the culms are very glaucous.

AVENA. L. Oat.

- 96.
- A. striata**
- Michx. Oat-Grass.

Woods; occasional. Mid-May-June.

John Ball Park, City; Burton Ave. Swamp; East St. Pinery;

Soldiers' Home woods; bluffs of Scotch Creek; Cedar Swamp.

BOUTELOUA Lag. MESQUITE-GRASS.

- 97.
- B. racemosa**
- Lag. Grama-Grass.

B. curtipendula (Michx.) Torr.

Dry soil. July-Aug.

Bluffs of Plainfield Village; Pine Hill; not abundant.

BRACHYELYTRUM Beauv.

- 98.
- B. erectum**
- Beauv.

(B. aristatum R. & S.)

Moist woods; frequent. July.

BROMUS L. BROME-GRASS.

- 99.
- B. BRIZAEFORMIS**
- Fisch. & Mey. Quakegrass.

Waysides and waste ground; increasing. June.

- 100.
- B. ciliatus**
- L.

In moist woods and thickets; common. June-July.

- 101.
- B. ciliatus purgans**
- (L.) Gray.

Moist woods; frequent. July.

- 102.
- B. Kalmii**
- Gray. Wild Chess.

Dry open woods; scarce. June-July.

Vergennes; Campau Lake.

- 103.
- B. mollis**
- L. Soft Chess.

B. hordeaceus L.

Waste places; occasional. June-July.

Northern part of the City (O.H.).

104. **B. RACEMOSUS** L. Upright Chess.

Becoming frequent along roadsides. June-July.

105. **B. SECALINUS** L. Cheat or Chess.

Common in grain fields. June-July.

106. **B. TECTORUM** L.

Sterile soil. Mid-May-June.

This grass was first noticed in the City on the S. E. corner of Union St. and Wealthy Ave. in 1894, by C. W. Fallass. This is the first station reported in the State. The circumstances attending its appearance were carefully looked up by R. E. Matteson who reports the following: "The grass appeared shortly after a fruit dealer whose fruits were largely imported from Italy, occupied the barn on an adjoining lot. It was his custom to brush out his wagon while crossing this lot."

This is a common grass in Southern Europe, and as it made its appearance immediately after the occupancy of the barn by the fruit dealer, and in such abundance, it seems conclusive that it must have been brought here in the packing material. When discovered it covered the lot and was confined to it. The wind carries the light feathery spikelets and spreads it with great rapidity; from this lot it has spread to all parts of the City, and is now invading the surrounding country.

CALAMAGROSTIS Adans. REED BENT-GRASS.

107. **C. Canadensis** Beauv. Blue-joint.

Open marshes; common. Mid-June-July.

CENCHRUS L. HEDGEHOG or BUR-GRASS.

108. **C. tribuloides** L.

Sandy soil, fields, and waste places; abundant and troublesome. Aug.-Sept.

CHRYSOPOGON Trin.

109. **C. avenaceus** (Michx.) Benth. Indian Grass. Wood-Grass.

Dry banks and light soil. Aug.—Sept.

Vergennes; Pine Hill; Lamberton Lake and Creek region; Crooked Lake; central Cannon. Only a few small clumps at any station.

CINNA L. WOOD REED-GRASS.

110. **C. arundinacea L.**

Swamps and low woods; common. Aug.—Sept.

111. **C. latifolia (Trev.) Griseb.** (*C. pendula Trin.*)

Damp woods; rare. July—Aug.

Farm of J. Field near Ballards; Cedar Swamp.

DACTYLIS L. ORCHARD GRASS.

112. **D. GLOMERATA L.**

Shaded places; common. June.

DANTHONIA DC. WILD OAT-GRASS.

113. **D. spicata Beauv.**

Common in dry sandy soil. June.

DESCHAMPSIA Beauv.

114. **D. caespitosa Beauv.**

Wet boggy ground. June.

Feakin's Marsh; Plaster Creek at Madison Ave.; in tamarack marshes along the G. R. & I. Ry. Abundant at these stations.

EATONIA Raf.

115. **E. Pennsylvanica Gray.**

Common in moist woods. June.

ELYMUS L. LYME-GRASS. WILD RYE.

116. **E. Canadensis L.**

River banks and low ground; common. July—Aug.

117. **E. Canadensis glaucifolius Gray.**

Frequent along river banks. July—Aug.

118. *E. striatus* Willd.

Low woods; frequent. July.

119. *E. striatus villosus* Gray.

Frequent along the banks of ravines. July.

120. *E. Virginicus* L.

Frequent along streams. July-Aug.

121. *E. Virginicus glaucus* Beal.

Abundant at the mouth of Bear Creek (H.W.Hyser). July-Aug.

ERAGROSTIS Beauv.122. *E. Frankii* Steud.

Roadsides in moist ground; frequent. Sept.-Oct.

123. *E. MAJOR* Host.

Common in fields and gardens.

124. *E. pectinacea spectabilis* Gray.

Dry sandy soil. July-Oct.

Abundant at the following stations: Pine Hill; north of Englishville; western part of Cannon; Plainfield Village; D. G. R. & W. Ry. Bridge, Thornapple River, Caledonia.

125. *E. Purshii* Schrader.

Roadsides and dry places; frequent. Aug.-Sept.

126. *E. reptans* Nees.

E. hypnoides (Lam.) B.S.P.

Frequent on sandy or gravelly river borders. Aug.-Sept.

FESTUCA L. FESCUE-GRASS.127. *F. ELATIOR PRATENSIS* Gray. Meadow Fescue.

In meadows. July-Aug.

128. *F. nutans* Willd.

Woods; common. June.

129. *F. ovina* L. Sheep's Fescue.

Dry, oak woods; common. June.

130. **F. ovina pseudovina** Hack.

Hills between Lambertson Lake and Button Lake. June.

Plant described in "Grasses of North America," Dr. W. J. Beal.

131. **F. rubra** L.

Established in the Soldiers' Home woods. June.

132. **F. tenella** Willd.*F. octoflora* Walt.

Sterile soil; frequent. Mid-May-June.

GLYCERIA R. Br. MANNA-GRASS.*Panicularia* Fabr.133. **G. Canadensis** Trin. Rattlesnake-Grass.

In marshes about lake borders; occasional. July-Aug.

Mill Lake; Medena Lake; Miller's Lake; Grass Lake; Campau Lake.

134. **G. fluitans** R. Br.

In shallow water or wet places. June-July.

Common and variable.

135. **G. grandis** Watson.*P. Americana* (Torr.) MacM.

Common in marshes. July-Aug.

136. **G. nervata** Trin.

Wet meadows or woods; common. Mid-June-July.

Panicle purple or green.

137. **G. pallida** Trin.

In shallow water and wet places; occasional. June-Mid-July.

Sec. 29, Vergennes; Frawley Lake; N. W. corner of Sec. 12, Alpine; Sec. 14, Grand Rapids; West Bridge St., near the Big Marsh; near Stafford Lake; central Cannon.

GRAPHEPHORUM Desv.138. **G. melicoideum** Desv.Along the G. R. & I. Ry., near Fisher Station (R.E. Matteson).
Aug.

HIEROCHLOE S. G. Gmel. Holy Grass.*Savastana* Schrank.

- 139.
- H. borealis**
- R. & S. Vanilla or Seneca Grass.

S. odorata (L.) Scribn.

Wet boggy marshes; occasional. Mid-May–June.

Plaster Creek at Madison Ave.; Salt Spring; bank of Grand River opposite Grandville.

In the northern part of the State, the Indians weave this grass into baskets.

HORDEUM L.

- 140.
- H. jubatum**
- L. Squirrel-tail Grass.

In dry soil; scarce. July–Aug.

N. E. corner of Sec. 9, Alpine (H. C. Smith); South Division St. at Silver Creek.

KOELERIA Pers.

- 141.
- K. cristata**
- Pers.

Frequent in oak openings. June.

LEERSIA Swartz. WHITE Grass.*Homalocenchrus* Mieg.

- 142.
- L. oryzoides**
- Swartz. Rice Cut-grass.

Abundant in wet places. Aug.–Sept.

- 143.
- L. Virginica**
- Willd.

Swamps or wet woods; frequent. Aug.–Sept.

LOLIUM L. DARNEL.

- 144.
- L. PERENNE**
- L. Common Darnel. Ray- or Rye-Grass.

Lawns and along streets. June–Oct.

MILIUM L. MILLET-GRASS.

- 145.
- M. effusum**
- L.

Frequent in wet woods; June.

MUHLENBERGIA Schreb. DROP-SEED GRASS.

- 146.
- M. diffusa**
- Schreb. Nimble Will.

Open shaded grounds; frequent about dwellings. Aug.–Sept.

147. **M. glomerata** Trin.

M. racemosa (Michx.) B. S. P.

Wet meadows; occasional. Aug.-Sept.

148. **M. Mexicana** Trin.

Frequent in wet shaded places. Aug.-Sept.

149. **M. sylvatica** Torr. & Gray.

In moist woods and along streams. Aug.-Sept.

Cedar Swamp, near the Blendon Road; Rouge River, near Plainfield Village.

150. **M. Willdenovii** Trin.

M. tenuiflora (Willd.) B. S. P.

Soldiers' Home woods. Rare. Sept.

ORYZOPSIS Michx. MOUNTAIN RICE.

151. **O. asperifolia** Michx.

Common in rich woods. May.

152. **O. Canadensis** Torr.

O. juncea (Michx.) B. S. P.

Sterile soil; infrequent. May.

Bluffs along Scotch Creek, Sec. 20, Plainfield; hills west of the Lower Swing Bridge (R.E. Matteson).

153. **O. melanocarpa** Muhl.

Rich woods; rare. July.

Soldiers' Home woods; east line of Sec. 17, Wright (H.C. Smith).

PANICUM L. PANIC-GRASS.

154. **P. boreale** Nash.

Moist soil. Summer.

Along Hogadone Road; marshes along the G. R. & I. Ry.; Scotch Lake.

This is the second station reported in the State.

155. **P. capillare** L. Old-witch Grass.

A common weed in dry soil. July-Sept.

156. **P. clandestinum** L.

Moist woods and thickets; rare. June-July.

Plaster Creek at Madison Ave.; Glue Factory woods; Cascade Springs.

157. **P. commutatum** Schultes.

Dry woods and thickets. July-Aug.

Mill Creek woods (O.H.).

The only station reported in the State.

158. **P. CRUS-GALLI** L. Barnyard-Grass.

In rich soil of cultivated or waste ground; common and variable.
Aug.-Sept.

159. **P. CRUS-GALLI HISPIDUM** Torr.

P. Walteri Pursh.

Banks of Grand River, near the Lower Swing Bridge (O.H.).
Aug-Sept.

160. **P. depauperatum** Muhl.

Sterile soil; variable and common. June-Sept.

161. **P. dichotomum** L.

Dry woods and copses; common and variable. June-July.

162. **P. flexile** (Gattinger) Scribn.

Wet marly soil. Aug.

Abundant in the Lamberton Lake region (M.&C.).

163. **P. GLABRUM** Gaud.

Syntherisma linearis (Krock.) Nash.

Common in sterile soil. July-Aug.

164. **P. latifolium** Walt.

P. Porterianum Nash.

Edges of woods; common. Mid-June-July.

165. **P. MILIACEUM** L. Millet.

Waste places. July-Sept.

At the corner of Jefferson Ave. and Burton Ave., City (O.H.).

166. *P. nitidum* Lam.

Dry soil. June.

South Grand Rapids; Upper River Road.

167. *P. pubescens* Lam.

Dry soil; frequent. June.

South Grand Rapids; Hogadone Road; Cannon.

168. *P. SANGUINALE* L. Common Crab- or Finger-Grass.*Syntherisma sanguinalis* (L.) Nash.

Waste places; common. Aug.-Sept.

169. *P. scoparium* Watson.*P. Scribnerianum* Nash.

Frequent in light sandy soil. June-July.

170. *P. virgatum* L.

Moist or dry soil along streams and lakes; infrequent. Aug.-Sept.

Cascade Springs; Bostwick Lake; Lower Swing Bridge; Ada Village.

PHALARIS L. CANARY-GRASS.171. *P. arundinacea* L. Reed Canary-Grass.

Moist or wet soil; common. June-July.

172. *P. arundinacea* PICTA (Hort.) Ribbon-Grass.

Cultivated in gardens. June-July.

Established in a marsh, near the north line of Sec. 6, Walker (H.C.Smith).

173. *P. CANARIENSIS* L. Canary-Grass.

Waste ground; rare. July-Aug.

Jefferson Ave., south of Silver Creek, City (R.E.Matteson); west bank of Grand River, near the G. R. & I. Ry. Bridge, City (F.).

PHLEUM L. CAT'S-TAIL GRASS.174. *P. PRATENSE* L. Timothy. Herd's-Grass.

A common meadow grass. June.

PHRAGMITES Trin. REED.

175. *P. communis* Trin.

P. Phragmites (L.) Karst.

In swamps and wet places; infrequent. Sept.-Oct.

Saddle-Bag Swamp; Reed's Lake; Lamberton Lake; Stafford Lake; Mud Lake, Wright; Mud Lake, Jamestown; Byron Center.

POA L. MEADOW-GRASS. SPEAR-GRASS.

176. *P. alsodes* Gray.

Wooded banks of brooks; frequent. May-June.

177. *P. ANNUA* L. Low Spear-Grass.

A lawn grass; common. May-Oct.

178. *P. COMPRESSA* L. Wire-Grass. English Blue-Grass.

A pasture Grass; common and variable. June-Aug.

179. *P. debilis* Torr.

Moist rich woods; occasional. May-June.

Soldiers' Home woods; Sec. 29, Vergennes; along the River Road.

180. *P. flexuosa* Muhl.

P. autumnalis Muhl.

In wet woods; rare. May-June.

Burton Ave. Swamp; Stafford Lake.

The plant that occurs here is probably related to *P. flexuosa*.

Our plant has not been satisfactorily identified. —

181. *P. pratensis* L. Kentucky Blue-Grass. June Grass.

A common pasture and meadow grass. It forms the basis of all our pastures. June.

182. *P. serotina* Ehrh. False Red-top. Fowl Meadow-Grass.

P. flava L.

Wet meadows; common. June-July.

183. *P. sylvestris* Gray.

Moist beech and maple woods; rare. June.

Woods east of Kinney Station; south branch of Lamberton Creek, south of the Knapp Road.

SETARIA Beauv. **BRISTLY FOXTAIL GRASS.***Izophorus* Schlecht.

184. **S. GLAUCA** Beauv. Foxtail. Pigeon-Grass.
Common in waste or cultivated ground. July-Aug.
185. **S. ITALICA** R. & S. Millet. Hungarian Grass.
Escaped cultivation. July-Sept.
186. **S. VIRIDIS** Beauv. Green Foxtail. Bottle-Grass.
Fields and waste places; common. July-Sept.

SPARTINA Schreb. **CORD or MARSH GRASS.**

187. **S. cynosuroides** Willd. Fresh-water Cord-Grass.
Frequent in wet places. Aug.-Sept.

SPOROBOLUS R. Br. **DROP-SEED GRASS. RUSH-GRASS.**

188. **S. cryptandrus** Gray.
In dry sand at Pine Hill; scarce. Aug.-Sept.
189. **S. neglectus** Nash.
Sterile soil. Aug.-Sept.
Especially common along dry sandy roadsides.
190. **S. vaginaeflorus** (Torr.) Wood.
Dry sterile soil. Aug.-Sept.
Cascade Springs along the Ada Road; along the "cart road,"
north of Lamberton Lake. Abundant at these stations.

STIPA L. **FEATHER-GRASS.**

191. **S. avenacea** L. FEATHER-GRASS.
Oak openings; abundant. May-June.
192. **S. spartea** Trin. Porcupine Grass.
Dry soil along the D. G. H. & M. Ry. June-July.

ZIZANIA L. **WATER or INDIAN RICE.**

193. **Z. aquatica** L. Indian Rice. Water Oats.
Common in shallow water of Grand River. Last of July-Aug.

CYPERACEAE. SEDGE FAMILY.**CAREX L.** SEDGE.

194. **C. Albursina** Sheldon. (*C. laxiflora latifolia* Boott.)
In rich woods, prefers beech and maple; common. May–June.
195. **C. alopecoidea** Tuckerm.
In woods about the Glue Factory; rare. Mid-June–Mid-July.
196. **C. aquatilis** Wahl.
In water along creek and lake borders. June–July.
Stafford Lake; abundant in the marshes about Lamberton Lake.
197. **C. arctata** Boott.
Frequent in moist rich woods. June–July.
Secs. 14 and 25, Jamestown; Mr. Gormley's woods, Sec. 2, Walker; Alpine, etc.
198. **C. aurea** Nutt.
In moist marly soil; scarce. June–Mid-July.
Pine Island Lake; Mud Lake, Wright; Larkins' Lake.
199. **C. bromoides** Schkuhr.
Common in low woods. June.
200. **C. canescens** L.
Frequent on the borders of sphagnous swamps. Mid-May–June.
201. **C. canescens vulgaris** Bailey.
C. brunnescens gracilior Britton.
Found with the species; common. Mid-May–June.
202. **C. Careyana** Torr.
Rich moist woods; local. Mid-May–Mid-June.
Soldiers' Home Woods (Prof. C.F. Wheeler); woods south of Reed's Lake (M.&C.); woods near Bronner Lake.
203. **C. cephaloidea** Dewey.
Dry fields and copses; scarce. Mid-June–July.
Soldiers' Home woods; Farm of V. Harrington, Sec. 2, Walker.

204. **C. cephalophora** Muhl.
In dry shaded places; common. June-July.
205. **C. communis** Bailey.
C. pedicellata (Dewey) Britton.
Frequent on rich shaded banks. May-Mid-June.
206. **C. communis Wheeleri** Bailey.
C. pedicellata Wheeleri (Bailey) Britton.
S. B. Smith's woods, Sec. 14, Grand Rapids. May-Mid-June.
207. **C. comosa** Boott. (*C. Pseudo-Cyperus Americana Hochst.*)
Frequent on lake margins. June-July.
208. **C. conoidea** Schkuhr.
In wet ground along Silver Creek, near Oakdale Station (Prof. C.F. Wheeler); scarce. May-June.
In the M. A. C. Herbarium.
209. **C. crinita** Lam.
A common sedge in marshes. June-July.
210. **C. Davisii** Schwein. & Torr.
In rich shaded soil along the bank of Grand River between the Glue Factory and the Salt Spring (F.). Last of May-June.
Rare in Mich.
211. **C. Deweyana** Schwein.
Frequent in dry woods. June.
212. **C. digitalls** Willd.
In oak woods; frequent. June-Mid-July.
213. **C. digitalis copulata** Bailey.
In moist beech and maple woods; infrequent. June-Mid-July.
Woods of J. H. Edison and V. Harrington, Sec. 2, Walker;
woods of J. Hinebeck, Sec. 12, Alpine.
214. **C. filiformis** L.
Marshy ground; infrequent. June.
Reed's Lake; Crooked Lake; Lamberton Lake.

215. **C. flava** L.
Common in marshes. June–July.
The variety *graminis* Bailey is included in the species.
216. **C. formosa** Dewey.
Soldiers' Home woods (Prof. C.F. Wheeler), May, 1895.
In the M. A. C. Herbarium. A rare sedge in Mich.
217. **C. fusca** All.
In boggy ground; local. Last of May–June.
Abundant about Lamberton Lake and its marshes; Feakin's Marsh; Stafford Lake.
218. **C. gracillima** Schwein.
In moist shaded soil; frequent. Last of May–June.
219. **C. granularis** Muhl.
Not infrequent in grassy meadows and wet places. June.
220. **C. granularis Haleana** Porter.
C. granularis Shriveri Britton.
Frequent in low, clayey ground. June–July.
221. **C. Grayii** Carey.
C. Asa-Grayi Bailey.
Frequent in alluvial soil. Mid-June–Aug.
Along Grand River at the Soldiers' Home, Plainfield Village, Ada Village; Fisher Station; the Outlet.
222. **C. grisea** Wahl.
In moist shaded soil; infrequent. Mid-May–June.
Soldiers' Home woods.
223. **C. Hitchcockiana** Dewey.
Frequent in woods and thickets. Mid-June–Mid-July.
224. **C. hystricina** Muhl.
Common in swamps and low meadows. June–July.
The spikes are sometimes compound at the base.
225. **C. interior** Bailey.
Wet soil; common. May–June.

226. *C. intumescens* Rudge.
In wet woods; common. June-July.
227. *C. lanuginosa* Michx. (*C. filiformis latifolia* Boeckl.)
Bogs and low ground; common. Mid-May-June.
228. *C. laxiflora* Lam.
In beech and maple woods; common and exceedingly variable.
May-June.
229. *C. laxiflora patulifolia* Carey.
Common in moist beech and maple woods. May-June.
230. *C. laxiflora striatula* Carey.
C. laxiflora blanda (Dewey) Boott.
In moist woods; common. June-July.
231. *C. laxiflora varians* Bailey.
Frequent in moist woods. May-June.
232. *C. limosa* L.
In sphagnous bogs. June-July.
Orchid Swamp (Prof.C.F.Wheeler); Thompson's Lake.
233. *C. longirostris* Torr.
In a moist thicket on the bank of Plaster Creek, south-east of
the City (F.). June.
Rare in the State.
234. *C. lupulina* Muhl.
In swamps and low ground; abundant and variable. Mid-June-
July.
235. *C. lupulina pedunculata* Dewey.
Found growing with the species but less frequent. Mid-June-
July.
Edges of Cedar Swamp; Farm of Mrs. Jane Banks, Sec. 21, Ada.
236. *C. lurida* Wahl.
In wet meadows and along streams; frequent. June-July.
237. *C. monile* Tuckerm.
Margin of Crooked Lake; scarce. June-July.

238. **C. Muhlenbergii** Schkuhr.
Dry fields and hills; frequent. June–July.
239. **C. Muskingumensis** Schwein.
Wooded alluvial soil. June–July.
Along Grand River at Plainfield Village; Soldiers' Home woods;
abundant on the Farm of Mrs. Jane Banks, Sec. 21, Ada.
Rare in the State.
240. **C. oligosperma** Michx.
In sphagnous bogs; infrequent. July.
Miller's Lake; Bronner Lake; Thompson's Lake.
241. **C. pauciflora** Lightf.
In sphagnum about Mud Lake, Plainfield; rare. June–July.
242. **C. pedunculata** Muhl.
On mounds in low woods. April–May.
Orchid Swamp and Burton Ave. Swamp.
Our earliest sedge.
243. **C. Pennsylvanica** Lam.
Common in dry woods, often forming large patches. April–June.
Our commonest sedge.
244. **C. plantaginea** Lam.
Frequent in low woods. May–June.
245. **C. polytrichoides** Muhl.
C. leptalea Wahl.
Low ground; common. May–June.
Exceedingly variable in size.
246. **C. Pseudo-Cyperus**. L.
A few plants grow along the south side of the Salt Spring
marsh. Mid-June–July.
247. **C. pubescens** Muhl.
In beech and maple woods; frequent. June–July.
Soldiers' Home woods; near Hudsonville; Alaska; Sec. 12,
Tallmadge; Sec. 14, Grand Rapids.

248. *C. retrorsa* Schwein.
Frequent in swamps. July–Aug.
249. *C. riparia* Curtis.
Common in swamps and swales. June–July.
250. *C. rosea* Schkuhr.
Frequent in moist woods and thickets. May–June.
251. *C. rosea radiata* Dewey.
Dry woods; frequent. May–June.
252. *C. Sartwellii* Dewey.
In swamps; infrequent. June–July.
Crooked Lake; Reed's Lake; Fisk Lake.
253. *C. scabrata* Schwein.
Banks of streams and wet thickets; infrequent. Mid-June–July.
Clay ravines, Sec. 5, Georgetown; Soldiers' Home Woods.
254. *C. scoparia* Schkuhr.
Low ground, everywhere. June–July.
255. *C. siccata* Dewey.
Dry sterile copses; occasional. June.
Bluffs along Hogadone Road, east of Hogadone Creek; central Cannon.
256. *C. sparganioides* Muhl.
Rich shaded banks and thickets; frequent. June–July.
Jamestown; bluffs of Plaster Creek; John Ball Park, City;
Reed's Lake; Vergennes.
257. *C. sterilis* Willd.
Swales; common. May–June.
258. *C. sterilis cephalantha* Bailey.
Found growing with the species; frequent. May–June.
259. *C. stipata* Muhl.
Common in wet soil. June–July.

260. **C. straminea** Willd.
Frequent in moist rich woods. Mid-May-June.
261. **C. straminea alata** Bailey.
C. alata Torr.
In wet ground; rare. June-July.
The "big ravine" near Harris' Landing.
262. **C. straminea brevior** Dewey.
C. festucacea Willd.
Common in dry soil. May-June.
263. **C. straminea ferruginea** Gray.
In wet ground; occasional. Mid-June-July.
Mill Lake; Big Marsh; Tobey Lake.
264. **C. straminea mirabilis** Tuckerm.
Frequent in rich moist woods. June.
265. **C. stricta** Lam.
In wet boggy ground; frequent. June-July.
Exceedingly variable.
266. **C. tenella** Schkuhr.
Sphagnous swamps; infrequent. June.
Bailey Lake; Mud Lake, Plainfield.
267. **C. tenuiflora** Wahl.
Abundant in boggy ground about Bailey Lake. Mid-May-June.
Rare in the State.
268. **C. teretiuscula** Gooden.
Common in wet soil. Last of May-June.
269. **C. teretiuscula ramosa** Boott.
C. teretiuscula praireu (Dewey) Britton.
Found growing with the species. Last of May-June.
270. **C. tetanica** Schkuhr.
In meadows and wet woods; infrequent. Last of May-June.
Burton Ave. Swamp; Lamberton Lake marsh; Plaster Creek at
Madison Ave.; Stafford Lake.

271. **C. tetanica** Woodii Bailey.

In wet woods near the Paris Town Hall. Mid-May-June.

272. **C. tribuloides** Wahl.

Abundant in swales and wet meadows. July.

273. **C. tribuloides** Bebbii Bailey.

Frequent in wet soil. June-July.

274. **C. tribuloides cristata** Bailey.

C. cristatella Britton.

Common in swales. July.

275. **C. tribuloides reducta** Bailey.

C. tribuloides moniliformis (Tuckerm.) Britton.

In moist beech and maple woods, Sec. 14, Jamestown. July.

276. **C. triceps hirsuta** Bailey.

Dry soil; rare. June-July.

Kalamazoo Ave. on the edges of a woods near Burton Ave.

277. **C. trichocarpa** Muhl.

In marshes and wet meadows; infrequent. June-July.

N. W. $\frac{1}{4}$ of Sec. 2, Walker; S. B. Smith's woods, Sec. 14, Grand Rapids.

278. **C. trisperma** Dewey.

Frequent in sphagnous swamps. Mid-June-July.

279. **C. Tuckermani** Dewey.

In swamps; frequent. June-July.

280. **C. utriculata** Boott.

In mud and water along Bear Creek. June-Aug.

281. **C. varia** Muhl.

Moist rich woods; occasional. June.

East St. Pinery; Paris Town Hall.

282. **C. virescens** Muhl.

In rich shaded ground; frequent and well distributed. Last of June-July.

283. **C. virescens costata** Dewey.

C. costellata Britton.

In woods; less frequent than the species. Last of June–July.
East St. Pinery; Pine Island Lake.

284. **C. viridula** Michx. (C. *flava viridula* Bailey.)

Margins of lakes; frequent. Summer.

285. **C. vulpinoidea** Michx.

Common in swamps and wet meadows. June–July.

CLADIUM P. Br. TWIG-RUSH.

286. **C. mariscoides** Torr.

Frequent in shallow water about lake margins. July–Sept.
Pine Island Lake; Gold Lake; Button Lake; Grass Lake; Mud
Lake, Wright; Larkins' Lake; Campau Lake, etc.

CYPERUS L. GALINGALE.

287. **C. aristatus** Boeckl.

C. inflexus Muhl.

Frequent in wet sand along the banks of Grand River. Aug.–Sept.

288. **C. diandrus** Torr.

Low ground; common. Aug.–Sept.

289. **C. diandrus castaneus** Torr.

C. rivularis Kunth.

Found growing with the species; common. Aug.–Sept.

290. **C. Engelmanni** Steud.

In wet soil; rare. Aug.–Sept.
Crooked Lake.

291. **C. erythrorhizos** Muhl.

Wet soil; infrequent. Aug.–Sept.
Reed's Lake; Grand River at Soldiers' Home; Pine Island Lake.

292. **C. esculentus** L.

Common in moist places. July–Sept.
A troublesome weed.

293. *C. filiculmis* Vahl.

Sterile soil; common. June–Aug.

294. *C. speciosus* Vahl.

Low ground; rare. Sept.–Oct.

Crooked Lake; Soft Water Lake; Plainfield Village.

295. *C. strigosus* L.

Frequent on low ground. Aug.–Oct.

DULICHIMUM L. C. Richard.296. *D. spathaceum* Pers.

D. arundinaceum (L.) Britton.

Marshes and lake borders; common. July–Oct.

ELEOCHARIS R. Br. SPIKE-RUSH.297. *E. acicularis* R. Br. Spike-Rush.

In wet places; common. July–Sept.

298. *E. acuminata* (Muhl.) Nees. (*E. compressa* *Sullivant*.)

In wet places. July–Aug.

Silver Lake; Bostwick Lake; Stafford Lake; Bronner Lake;

Lower Swing Bridge; near Kinney Station.

299. *E. Engelmanni detonsa* Gray.

In wet sand about Soft Water Lake. Sept.–Oct.

This Variety described by M. L. Fernald in "Proceedings of American Academy of Arts and Sciences." Vol. XXXIV. No. 19.—April, 1899.

300. *E. intermedia* Schultes.

In wet soil. July–Sept.

Pine Island Lake; Larkins' Lake; Stafford Lake; West Omens Lake; Plainfield Village; Lamberton Lake region. Abundant at these stations.

301. *E. mutata* (L.) R. & S. (*E. quadrangulata* *R. Br.*)

Abundant in shallow water at the east end of Reed's Lake. July–Aug.

302. **E. obtusa** Schultes.

In wet soil. July–Aug.

Crooked Lake; Vergennes.

Described by M. L. Fernald in "Proceedings of American Academy of Arts and Sciences," Vol. XXXIV. No. 19.—April, 1899.

303. **E. olivacea** Torr.

Abundant in wet mud on the shores of Stafford Lake and Crooked Lake. Aug.–Sept.

Rare in the State. These are the most westerly stations known for this species in the State.

304. **E. ovata Heuseri** Uechtritz.

In wet sand. Sept.–Oct.

Silver Lake; Soft Water Lake.

Described by M. L. Fernald in "Proceedings of American Academy of Arts and Sciences," Vol. XXXIV. No. 19.—April, 1899.

305. **E. palustris** R. Br.

Common in marshes and in shallow water. July–Sept.

306. **E. palustris glaucescens** Gray.

Frequent in wet meadows and marshes. July–Aug.

Pickerel Lake, Plainfield; the Outlet; Frawley Lake; Campau Lake.

307. **E. palustris vicens** Bailey.

Abundant in shallow water at Reed's Lake. July–Aug.

308. **E. rostellata** Torr.

In marly marshes. July–Sept.

Salt Spring marsh; Lower Swing Bridge; Lamberton Lake.

309. **E. tenuis** Schultes.

In wet soil. July.

Lamberton Lake; Fisk Lake; Vergennes; Silver Lake.

ERIOPHORUM L. COTTON-GRASS.

310. **E. gracile** Koch.

Sphagnous bogs; rare. Mid-May–Mid-June.

Button Lake; Bronner Lake.

311. *E. polystachyon* L.

Sphagnous swamps; frequent and well distributed. Mid-May-June.

312. *E. vaginatum* L.

Sphagnous bogs; rare. Mid-May-Mid-June.
Round Lake; Bronner Lake.

313. *E. Virginicum* L.

Sphagnous swamps; occasional. July-Aug.
Saddle-Bag Swamp region; Orchid Swamp; Spruce Lake;
Campau Lake, etc.

314. *E. Virginicum album* Gray.

Wet soil along Plaster Creek (F.). July-Aug.

FIMBRISTYLIS Vahl.315. *F. autumnalis* R. & S.

Moist soil of lake borders. Aug.-Sept..
Abundant at the following stations: Pine Island Lake; N. W.
shore of Crooked Lake; Silver Lake; Bostwick Lake; Lamber-
ton Lake.

316. *F. capillaris* Gray.

Stenophyllus capillaris (L.) Britton.
In dry sand; abundant but local. July-Aug.
Campau Lake at Whitneyville Creek; S. shore of Bostwick
Lake; Little Bostwick Lake.

FUIRENA Rottb. **UMBRELLA-GRASS.**317. *F. squarrosa pumila* Torr.

In mud along the N. W. shore of Crooked Lake; rare. July-Sept.

HEMICARPHA Nees.318. *H. subsquarrosa* Nees.

H. micrantha (Vahl.) Britton.
Wet sandy lake margins; infrequent. July-Oct.
Bostwick Lake; Silver Lake; Soft Water Lake. Plentiful at
these stations.

~~PSILOGARYA~~ Torr. BALD-RUSH.319. *P. scirpoides* Torr.

Abundant in mud on the margin of Crooked Lake. Aug.-Sept.
The only station known in the State.

RYNCHOSPORA Vahl. BEAK-RUSH.

320. *R. alba* Vahl.

Sphagnous bogs; frequent. Mid-July-Aug.
Miller's Lake; Frawley Lake; Carmody Lake; Gold Lake;
Bronner Lake, etc.

321. *R. capillacea* Torr.

In marly soil; local. July-Aug.
Campau Lake; Clear Lake; along a spring brooklet on the Farm
of L. N. Wade, Secs. 31 and 32, Plainfield.

322. *R. capillacea leviseta* Hill.

In wet marly soil; local. July-Aug.
Lamberton Lake (M. & C.); Button Lake; Campau Lake.

323. *R. glomerata* Vahl.

In wet marly meadows; occasional. July-Aug.
Oak Hill Farm, Sec. 32, Vergennes; Gold Lake; Campau Lake;
Soft Water Lake; Little Bostwick Lake; Farm of J. W. Ames,
Sec. 4, Ada; Crooked Lake.

324. *R. macrostachya* Torr.

R. corniculata macrostachya (Torr.) Britton.

In wet soil at Crooked Lake; rare. July-Aug.
This species has been reported from only one other station in
the State.

SCIRPUS L. BULRUSH or CLUB-RUSH.

325. *S. atrovirens* Muhl.

Common in swamps. July-Aug.
The inflorescence is exceedingly variable.

326. **S. cyperinus Eriophorum** (Michx.) Britton.
(*Eriophorum cyperinum laxum* Wats. & Coult.)
Common in swamps. Aug.-Sept.
327. **S. debilis** Pursh.
Abundant in moist sand along the N. shore of West Omens Lake. Aug.-Sept.
Rare in the State—the third station reported.
328. **S. lacustris** L. Great Bulrush.
In shallow water of marshes and lakes; common. July-Aug.
329. **S. lineatus** Michx. (*Eriophorum lineatum* Benth. & Hook.)
In wet meadows; frequent. June-July.
Well distributed throughout our district.
330. **S. microcarpus** Presl. (*S. sylvaticus digynus* Boeckl.)
In swampy places; frequent. June-July.
331. **S. Olneyi** Gray.
Abundant in the marsh about the Salt Spring. July-Aug.
Reported from only one other station in the State.
332. **S. pauciflorus** Lightf. (*Eleocharis pauciflora* Link.)
Abundant in the marshy borders of Lamberton Lake; Fenness Lake; Campau Lake; Stafford Lake. June-Sept.
333. **S. pungens** Vahl.
S. Americanus Pers.
Marshes and lake margins; common. July-Sept.
334. **S. Smithii** Gray.
In wet muddy places; local. July-Sept.
N. W. shore of Crooked Lake; Grass Lake; abundant on the W. shore of Silver Lake; Bostwick Lake; Miller's Lake.
This species has been mentioned but once before in the State.
335. **S. Torreyi** Olney.
On the margin of Pine Island Lake at the "picnic grounds."
Rare. July-Aug.

COMMELINACEAE. SPIDERWORT FAMILY.**TRADESCANTIA L. SPIDERWORT.**

- 350. *T. Virginica* L.** Common Spiderwort.

Dry sandy soil; common. June–Sept.

PONTEDERIACEAE. PICKEREL-WEED FAMILY.**HETERANTHERA R. & P. MUD-PLANTAIN.**

- 351. *H. graminea* Vahl.**

H. dubia (Jacq.) Mac M.

Lakes and still streams; common. July–Oct.

PONTEDERIA L. PICKEREL-WEED.

- 352. *P. cordata* L.**

Borders of lakes and slow streams; common. July–Aug.

JUNCACEAE. RUSH FAMILY.**JUNCUS L. RUSH. BOG-RUSH.**

- 353. *J. acuminatus* Michx.**

In wet places; infrequent. July.

Pickerel Lake; Pine Island Lake; West Omens Lake.

- 354. *J. articulatus* L.**

Moist ground; rare. July.

Margin of Gold Lake; Round Lake.

Rare in the State.

- 355. *J. Balticus* Willd.**

Sandy shores of Silver Lake. June.

Common on the shores of the Great Lakes; rare in the interior.

- 356. *J. brachycephalus* (Engelm.) Buch.**

Wet sandy places; frequent. Aug.

Stafford Lake; Bostwick Lake; Silver Lake; Spruce Lake; Farm of L. N. Wade, Secs. 31 and 32, Plainfield.

357. **J. bufonius** L.

Wet shores and low places; not uncommon. July.

358. **J. Canadensis** J. Gay.

Common in marshes. Aug.

The variety *longicaudatus* Engelm. is included in the species.

359. **J. Canadensis coarctatus** Engelm.

J. Canadensis brevicaudatus Engelm.

In wet sand; rare. Aug.-Sept.

Silver Lake; Little Bostwick Lake.

360. **J. effusus** L. Common or Soft Rush.

Low ground; common. July.

361. **J. marginatus** Rostk.

In moist soil; rare. Aug.

Grand Rapids (Prof.C.F.Wheeler).

In M. A. C. Herbarium—destroyed by fire in 1890.

362. **J. nodosus** L.

Wet places; common. July.

363. **J. nodosus megacephalus** Torr.

J. Torreyi Coville.

There is a small patch by the roadside between Secs. 5 and 6, Alpine, on the Farm of E. Miller. Rare. Aug.

364. **J. pelocarpus** E. Meyer.

Shores of lakes in moist sand; abundant but local. Aug.-Sept.

Pine Island Lake; Bostwick Lake; Silver Lake; Little Bostwick Lake.

365. **J. tenuis** Willd.

Common along paths and roadsides, variable. July-Aug.

LUZULA DC. WOOD-RUSH.

Juncoides Adans.

366. **L. campestris** DC.

Dry woods; frequent. May.

367. *L. vernalis* DC.*J. pilosum* (L.) Kuntze.

Woods; common. Mid-April-May.

LILIACEAE. LILY FAMILY.**ALETIS L.** COLIC-ROOT. STAR-GRASS.368. *A. farinosa* L.

Moist sandy soil; rare. July.

Along the D. G. H. & M. Ry., east of the City; roadside east of Campau Lake.

ALLIUM L. ONION. GARLIC.369. *A. Canadense* L. Wild Garlic.

Common in low woods. Mid-May-Mid-June.

370. *A. tricoccum* Ait. Wild Leek.

Common in rich woods. July.

ASPARAGUS L. ASPARAGUS.371. *A. OFFICINALIS* L. Garden Asparagus.

Escaped from gardens; occasional. June.

CLINTONIA Raf.372. *C. borealis* Raf.

Cold woods or sphagnous swamps; occasional. Mid-May-June.
Burton Ave. Swamp (Charles Wise); Mill Creek woods (O.H.);
Cedar Swamp; Sec. 25, Jamestown; Secs. 30 and 31, Byron.
Blossoms and fruits sparingly here.

ERYTHRONIUM L. DOG'S-TOOTH VIOLET.373. *E. albidum* Nutt. White Dog's-tooth Violet.

Rich woods; scarce. Mid-April-Mid-May.

Near the Indian Mounds (B.E.L.); woods near the Glue Factory (R.E. Matteson); Mill Creek woods (S.O.L.); woods of H. L. Dickerson, west line of Sec. 12, Tallmadge (Roy Tucker).

374. **E. Americanum** Ker. Yellow Adder's-tongue.
Moist thickets; common. Mid-April-Mid-May.

HEMEROCALLIS L. DAY-LILY.

375. **H. FULVA** L. Common Day-Lily.
Escaped from gardens; occasional. July-Aug.

LILIUM L. LILY.

376. **L. Philadelphicum** L. Wild Orange-red Lily.
Dry woods and thickets; infrequent. Mid-June-Mid-July.
Mill Creek woods (Charles Falls); D. G. H. & M. Ry., east of
City; G. R. & I. Ry., south of Burton Ave. (O.H.); Crooked
Lake (Harry Brandau).
377. **L. superbum** L. Turk's-cap Lily.
In swamps and meadows; occasional. July.

MAIANTHEMUM Wigg.

Unifolium Adans.

378. **M. Canadense** Desf.
Common in moist woods. June.

MEDEOLA L. INDIAN CUCUMBER-ROOT.

379. **M. Virginiana** L.
Moist woods and copses; infrequent. June.
Pine Island Lake; Mill Creek woods; Burton Ave. Swamp;
Mud Lake, Wright; Vergennes; Cedar Swamp; Scotch Creek.
Well distributed, but not abundant at any station.

MUSCARI Mill. GRAPE-HYACINTH.

380. **M. botryoides** (L.) Mill.
Near dwellings; occasional. May.
Escaped from a garden to the roadside, south of the Swing
Bridge, near the River Road, where it is abundant.

POLYGONATUM Adans. **SOLOMON'S SEAL.**

381. **P. biflorum** Ell. Smaller Solomon's Seal.
Open woods; common. May.
382. **P. giganteum** Dietrich. Great Solomon's Seal.
P. commutatum (R. & S.) Dietrich.
In wet woods or in dry ground; frequent. Mid-May–Mid-June.

SMILACINA Desf. **FALSE SOLOMON'S SEAL.***Vagnera* Adans.

383. **S. racemosa** Desf. False Spikenard.
Common in moist woods and thickets. Mid-May–Mid-June.
384. **S. stellata** Desf.
Common in moist shaded ground. May.
385. **S. trifolia** Desf.
Sphagnous swamps. Mid-May–Mid-June.
In Cedar Swamp under tamaracks.

SMILAX L. **GREENBRIER.**

386. **S. ecirrhata** Watson.
Woods; infrequent. June.
Woods near the Glue Factory; along Plaster Creek (F.).
387. **S. herbacea** L. Carrion-Flower.
In moist woods and thickets; not uncommon. June.
The variety *pulverulenta* Gray is included in the species.
388. **S. hispida** Muhl.
Common in moist thickets. June.
Our only species of woody endogen.
- S. rotundifolia** L. Common Greenbrier. Horse-brier.
Woods and thickets. June.
This species is found in Blendon Township, and it probably occurs in this district.

TOFIELDIA Huds. FALSE ASPHODEL.**389. T. glutinosa** (Michx.) Pers.

Sphagnous swamps; frequent. July.

TRILLIUM L. WAKE ROBIN. BIRTHROOT.**T. cernuum** L.

Woods on the S. E. shore of Camp Lake, Secs. 7 and 18, Algoma (S.O.L.). May.

This species may be looked for in this district.

390. T. erectum L.

Frequent in moist woods and thickets. May.

391. T. grandiflorum Salisb.

Rich woods; common. May.

Exceedingly variable, and apt to sport. Forms are found with the parts of the flower in fours, or even double.

392. T. nivale Riddell. Dwarf White Trillium.

In moist woods; rare. April.

North bank of Plaster Creek between the M. C. Ry. and G. R. & I. Ry. (L. S. Livingston), 1882 to '86; Farm of Mr. Wilde, Sec. 20, Wright (Miss Mina Wilde). Miss Annah M. Clark reports this species as having been frequent about the City in the seventies.

UVULARIA L. BELLWORT.**393. U. grandiflora** Smith.

Rich damp woods; common. May.

ZYGADENUS Michx.**394. Z. elegans** Pursh.

Moist soil in Feakin's Marsh (B.E.L.); rare. Last of July-Aug.

AMARYLLIDACEAE. AMARYLLIS FAMILY.**HYPOXIS** L. STAR-GRASS.**395. H. erecta** L.

H. hirsuta (L.) Coville.

Common in moist grassy places. Last of May–June.

DIOSCOREACEAE. YAM FAMILY.

DIOSCOREA L. YAM.

396. **D. villosa** L. Wild Yam-root.
Frequent in moist thickets. June.

IRIDACEAE. IRIS FAMILY.

IRIS L. WILD FLOWER-DE-LUCE.

397. **I. versicolor** L. Larger Blue Flag.
Wet places; common. June.

SISYRINCHIUM L. BLUE-EYED GRASS.

398. **S. angustifolium** Mill.
Common in meadows and grassy places. Last of May–June.

ORCHIDACEAE. ORCHID FAMILY.

APLECTRUM Nutt. PUTTY-ROOT. ADAM-AND-EVE.

399. **A. hyemale** Nutt.
A. spicatum (Walt.) B. S. P.
Rich woods; infrequent. Last of May.
Woods near West Bridge St. Ferry; along Buck Creek, near Grandville (M. & C.); East St. Pinery; Burton Ave. Swamp; Jamestown; Vergennes; Tubbs' woods, Sec. 22, Grand Rapids (O. H.).

ARETHUSA L.

400. **A. bulbosa** L.
In the sphagnum of Orchid Swamp; rare. Mid-May–Mid-June.
L. S. Livingston and Prof. R. H. Wolcott report this species as having been rather abundant in this swamp in the eighties.
In 1898 seven plants were found (O. H.).

CALOPOGON R. Br.*Limodorum L.***401. C. pulchellus R. Br.***L. tuberosum L.*

Sphagnous bogs; frequent. June-July.

Lamberton Lake region; Stafford Lake; Miller's Lake; Spruce Lake; Campau Lake; Mud Lake, Wright; Bronner Lake; Mud Lake, Plainfield; Orchid Swamp.

CORALLORHIZA R. Br. CORAL-ROOT.**402. C. innata R. Br.***C. Corallorhiza (L.) Karst.*

Moist rich woods; rare. July.

Farm of D. Blanding, Sec. 29, Vergennes; Sec. 18, Vergennes.

403. C. multiflora Nutt.

In rich moist woods; infrequent. Mid-July-Aug.

Woods along the Thornapple River; Mill Creek woods; Saddle-Bag Swamp region; East St. Pinery; Carrier Creek; Hogadone Creek; along the Walker Road, near West Leonard St. Only a few plants at any station.

CYPRIPEDIUM L. MOCCASIN-FLOWER.**404. C. acaule Ait. Stemless Lady's Slipper.**

In sphagnous swamps or dry woods; scarce. May.

Spruce Lake; Mill Creek woods; Bronner Lake; East St. Pinery; Hogadone Creek; Mud Lake, Plainfield; abundant in the Saddle-Bag Swamp region until 1895.

405. C. candidum Willd. Small White Lady's Slipper.

Bogs and marshes. May.

Button Lake; abundant in the marsh on the south-west side of Lamberton Lake until 1895; two plants were found in Orchid Swamp in 1885 (L.S. Livingston). One flower has been found with two slippers, one within the other (O.H.). Stems with two flowers are rare.

406. **C. parviflorum** Salisb. Smaller Yellow Lady's Slipper.

Swamps; formerly frequent, but becoming scarce. May.

Cascade Springs; along Plaster Creek at Kalamazoo Ave.; Saddle-Bag Swamp region; Burton Ave. Swamp; Mill Creek woods, and elsewhere.

407. **C. pubescens** Willd. Larger Yellow Lady's Slipper.

C. hirsutum Mill.

Woods; formerly frequent, becoming scarce. May.

Burton Ave. Swamp; Cascade Springs; Mr. Gormley's woods, Sec. 2, Walker; Mill Creek woods; Cedar Swamp; Lamberton Lake region; G. R. & I. Ry., south of South Grand Rapids; Mud Lake, Wright.

408. **C. spectabile** Salisb. Showy Lady's Slipper.

C. reginae Walt.

In swamps; formerly common, becoming scarce. June.

Burton Ave. Swamp (O.H.); along Plaster Creek at Kalamazoo Ave. (LloydFord); Cedar Swamp; Lamberton Lake region; the "big ravine" near Harris' Landing; Mud Lake, Wright; Mud Lake, Jamestown; Mill Creek woods.

This species and the two preceding, are covered with glandular hairs, and by contact sometimes produce an irritation quite similar in its effects to that of ivy poisoning.

GOODYERA R. Br. RATTLESNAKE-PLANTAIN.

Peramium Salisb.

409. **G. pubescens** R. Br.

In moist rich woods; frequent. Aug.

Mill Creek woods; Saddle-Bag Swamp region; Burton Ave. Swamp; East St. Pinery; Reed's Lake region; Vergennes.

HABENARIA Willd. REIN-ORCHIS.410. **H. blephariglottis** Torr. White Fringed-Orchis.

Sphagnous bogs; rare. Mid-July-Aug.

Spruce Lake. This species was destroyed in the main part of the

Saddle-Bag Swamp region in 1895. A few plants still remain at Carmody Lake (Miss Agnes Kelly).

411. **H. bracteata** R. Br.

In moist or dry woods; common. May.

412. **H. ciliaris** R. Br. Yellow Fringed-Orchis.

Sphagnous swamps or meadows; rare. July–Mid-Aug.

Orchid Swamp and Button Lake, 1885 (L.S.Livingston); Diamond St. Swamp, City (O.H.); Cascade Springs (C.F.Holt); near Lamberton Creek (R.E.Matteson); Burton Ave. Swamp, 1899 (C.W.Fox); Farm of O.O.Adams, Sec. 19, Vergennes. This species seems to have disappeared from all the stations except the last two mentioned.

413. **H. dilatata** (Pursh) Hook.

In bogs and wet woods; rare. June.

Stafford Lake; Clear Lake.

414. **H. Hookeriana** Gray.

Rich woods with conifers intermingled; scarce. June–July.

Mill Creek Woods; Lamberton Lake; Hogadone Creek; West Bridge St. Ferry (O.H.); Vergennes.

415. **H. hyperborea** R. Rr.

Bogs and wet woods; rare. June.

Mill Creek woods; Lamberton Lake (O.H.); Burton Ave. Swamp (B.E.L.); Saddle-Bag Swamp (S.O.L.).

416. **H. lacera** R. Br. Ragged Fringed-Orchis.

In sphagnous swamps; rare. July.

Miller's Lake. The station at Saddle-Bag Swamp was destroyed by fire in 1895 (S.O.L.).

417. **H. leucophaea** Gray.

Sphagnous swamps; rare. July.

In 1892 it was collected by Miss Broome in Diamond St. Swamp, City (Mrs. Hattie M.Bailey Pieters). The station at Saddle-Bag Swamp was destroyed in 1895 (O.H.).

418. **H. orbiculata** Torr.

Deep rich woods intermingled with pine. Mid-June-July.

Mill Creek woods; woods near West Bridge St. Ferry (O.H.); East St. Pinery (Miss Mary Dickerson); woods along the Thornapple River. Well distributed, but not abundant at any station.

419. **H. psycodes** Gray.

In meadows, swamps, and wet woods; formerly frequent, becoming occasional. July-Aug.

420. **H. tridentata** Hook.

H. clavellata (Michx.) Spreng.

On the bank of a spring brook in Burton Ave. Swamp (O.H.). Rare. July.

421. **H. virescens** Spreng.

H. flava (L.) Gray.

In moist soil; scarce. July.

Diamond St. Swamp, City (O.H.); near Fisher Station (R.E. Matteson); Burton Ave. Swamp (M.&C.); south branch of Lamberton Creek, near Mud Lake, Grand Rapids (S.O.L.).

LIPARIS L. C. Richard.

Leptorchis Thouars.

422. **L. Loeselii** L. C. Richard. Twayblade.

In wet soil; rare. June.

A few plants occur along the shore of Campau Lake.

MICROSTYLIS Nutt. ADDER'S-MOUTH.

Achroanthes Raf.

423. **M. ophioglossoides** Nutt.

A. unifolia (Michx.) Raf.

Sphagnous bogs; rare.

Two plants were found at Saddle-Bag Swamp, Aug. 12, 1893 (O.H.); this station was destroyed in 1895.

ORCHIS L.

424. *O. spectabilis* L. Showy Orchis.

Rich woods and ravines. Mid-May–Mid-June.

Tubb's woods, Sec. 22, Grand Rapids (O.H.); Mr. Gormley's woods, Sec. 2, Walker; East St. Pinery; south branch of Lamber-ton Creek, south of the Knapp Road (Miss Minnie Dressler). Rare in the State.

POGONIA Juss.

425. *P. ophioglossoides* (L.) Ker.

Sphagnous bogs; infrequent. July.

Morgan Lake; Button Lake; Spruce Lake; Miller's Lake; Thompson's Lake; Mud Lake, Plainfield; Mud Lake, Wright.

White flowered forms have been found at Saddle-Bag Swamp.

426. *P. verticillata* Nutt.

This rare species was collected in a ravine in the north addition to John Ball Park, City, by Miss Lucy S. Norton, June 6, 1893. Although this region has since been searched many times even by Miss Norton herself, it has never been rediscovered. Prof. C. F. Wheeler, in speaking of the incident says: "It sometimes happens that this species disappears for two or three seasons and then reappears on the same spot." Miss Norton reported several plants at this station. The specimens collected are in the herbarium of Mrs. Hattie M. Bailey Pieters.

SPIRANTHES L. C. Richard. LADIES' TRESSES.

Gyrostachys Pers.

427. *S. cernua* L. C. Richard.

Wet meadows; frequent. Aug.–Sept.

428. *S. gracilis* Beck.

On a dry bank, west of the D. G. H. & M. Ry. Junction (R.E. Matteson), Aug., 1893. Rare.

S. Romanzoffiana Cham.

In wet ground near Pratt Lake, Lowell. Aug.–Sept.

It probably occurs in our district. A northern plant.

DICOTYLEDONES.

SAURURACEAE. LIZARD'S-TAIL FAMILY.

SAURURUS L. LIZARD'S-TAIL.

429. *S. cernuus* L.

In swamps and shallow water along streams; common. July-Aug.

JUGLANDACEAE. WALNUT FAMILY.

CARYA Nutt. HICKORY.

Hicoria Raf.430. *C. alba* Nutt. Shell-bark or Shag-bark Hickory.

H. ovata (Mill.) Britton.

Uplands, on clayey soil; common. Mid-May-first of June.

A valuable timber tree producing the nuts of the market.

431. *C. amara* Nutt. Bitter-nut or Swamp Hickory.

H. minima (Marsh.) Britton.

Not uncommon in moist soil. Mid-May-first of June.

432. *C. microcarpa* Nutt.

Found growing with *C. alba*; frequent. Mid-May-first of June.

433. *C. porcina* Nutt. Pig-nut or Broom Hickory.

H. glabra (Mill.) Britton.

Uplands or moist woods; occasional. Mid-May-first of June.

Reed's Lake; Glue Factory woods; West Bridge St.; Plainfield Village; abundant in the northern part of Ada. The bark is closer and smoother than *C. microcarpa*, husk tardily dehiscent, nut pear-shaped or oblong, lenticels oblong.

JUGLANS L. WALNUT.

434. *J. cinerea* L. Butternut.

Low woods and uplands; frequent. Mid-May-first of June.

435. *J. nigra* L. Black Walnut.

Low woods and uplands; frequent. Mid-May-first of June.

MYRICACEAE. SWEET-GALE FAMILY.**MYRICA L. BAYBERRY. WAX-MYRTLE.***Comptonia* Banks.

- 436.
- M. asplenifolia**
- L. Sweet Fern.

C. peregrina (L.) Coult.

Moist sandy or gravelly soil; local. June.

Along the roads north of East St. Pinery; roadside west of Buck Lake (Miss Lora A. Smith).

SALICACEAE. WILLOW FAMILY.**POPULUS L. POPLAR. ASPEN.**

- 437.
- P. ALBA**
- L. White Poplar. Abele.

Escaped to roadsides; occasional. First of May.

- 438.
- P. balsamifera**
- L. Balsam Poplar.

Banks of streams; occasional. First of May.

Rouge River; Thornapple River; Carlton Creek; West Bridge St. Ferry. The trunk attains a diameter of 12 inches.

P. balsamifera CANDICANS Gray. Balm of Gilead.

Occasional in cultivation. First of May.

Much of what is called balm of Gilead in cultivation, is the species.

P. DILATATA Ait. Lombardy Poplar.

A tree commonly planted for ornament. It occasionally spreads by sending up shoots from subterranean parts.

- 439.
- P. grandidentata**
- Michx. Large-toothed Aspen.

Woods and borders of marshes; common. April.

- 440.
- P. monilifera**
- Ait. Cotton-wood. Necklace Poplar.

P. deltoides Marsh.

Banks of streams and low ground; occasional. Mid-April–Mid-May.

Mill Creek; Rouge River; Reed's Lake, and elsewhere.

On the bank of the Thornapple River, near Cascade Springs, there is a tree which sprang up on a newly formed sand-bar in

1855, and now has a diameter of 3 feet. On an island in the same river, near the Cascade and Caledonia line, stands a tree a little over 60 years old, which was measured in 1897 by Carl Johnson, and found to have a circumference of 12 feet, 8 inches (C.F.Holt).

441. *P. tremuloides* Michx. American Aspen.
Woods and marshes; common. April.

SALIX L. WILLOW. OSIER.

442. *S. ALBA VITELLINA* Koch. White Willow.
Originally from Europe. Mid-May.
443. *S. amygdaloides* Anders.
Along streams and in marshes; frequent. Mid-May–Mid-June.
There are trees about Reed's Lake which have a diameter of 18 inches. Pistillate and staminate flowers in the same catkin have been found on trees which grow in the marsh between Reed's Lake and Fisk Lake.
444. *S. candida* Fluegge. Hoary Willow.
Common in sphagnous bogs. Mid-April–Mid-May.
445. *S. candida* × *cordata* Bebb.
Low ground; occasional. Mid-April–Mid-May.
Orchid Swamp; Plaster Creek; Mud Lake, Wright.
446. *S. cordata* Muhl. Heart-leaved Willow.
In wet soil; common. Mid-April–Mid-May.
Narrow leaved forms are common.
447. *S. discolor* Muhl. Glaucous Willow.
Common in marshes. April.
448. *S. glaucophylla* Bebb.
Along streams; occasional. Mid-April–Mid-May.
East St. at Coldbrook Creek and at Silver Creek; Plaster Creek at Burton Ave.
449. *S. humilis* Marsh. Prairie Willow.
Common in dry soil. April.

450. *S. longifolia* Muhl.*S. fluviatilis* Nutt.

Wet places; common. Mid-May–Mid-June.

451. *S. lucida* Muhl. Shining Willow.

Common along streams and in swamps; variable. Mid-May.

452. *S. myrtilloides* L. Myrtle Willow.

Sphagnous bogs; frequent. Mid-May.

453. *S. nigra* Marsh. Black Willow.

Common along streams and low shores. Mid-May.

The trunks of trees about Reed's Lake often attain a diameter of 18 inches.

454. *S. petiolaris* Smith. Petioled Willow.

Common in low ground. Mid-April–Mid-May.

455. *S. PURPUREA* L. Purple Willow.

A native of Europe. Often cultivated as a basket willow. Mid-April–Mid-May.

In 1887 this willow was planted on the west bank of Rouge River, just below the Plainfield Village Bridge. A fire destroyed a part of the patch, and since then, it has been allowed to grow without attention. It is a shrub 5–10 feet high; twigs flexible and purple; leaves oblanceolate, serrulate, somewhat glaucous beneath; aments appearing before the leaves; scales purple (H.W.Hyser).

456. *S. rostrata* Richardson.*S. Bebbiana* Sarg.

In moist or dry soil; common. Mid-April–Mid-May.

Pistillate and staminate flowers in the same calkin are frequent.

457. *S. sericea* Marsh. Silky Willow.

Low ground; frequent. Mid-April.

BETULACEAE. BIRCH FAMILY.

ALNUS Gaertn. ALDER.458. *A. incana* Willd. Speckled or Hoary Alder.

Swamps and near streams; common. April.

BETULA L. BIRCH.

459. **B. lenta** L. Cherry Birch. Sweet or Black Birch.
In wet woods. May.
Black Ash Swamp; Burton Ave. Swamp.
460. **B. lutea** Michx. f. Yellow or Gray Birch.
In wet woods. May.
Burton Ave. Swamp; Soldiers' Home woods.
461. **B. papyrifera** Marsh. Paper or Canoe Birch. White Birch.
In rich woodlands; rare. May.
There is one tree on the Farm of J. Sheldon, Sec. 2, Walker
(Charles McCarty); on West Bridge St., near the Ferry, there is
one other.
462. **B. pumila** L. Low Birch.
Swamp and low ground; common. Mid-May-June.

CARPINUS L. HORNBEAM. IRON-WOOD.

463. **C. Caroliniana** Walt. American Hornbeam. Blue or Water Beech.
Along banks of streams; common. May.

CORYLUS L. HAZEL-NUT. FILBERT.

464. **C. Americana** Walt. Wild Hazel-nut.
Common in thickets. Last of March-April.

OSTRYA Scop. HOP-HORNBEAM. IRON-WOOD.

465. **O. Virginica** Willd. American Hop-Hornbeam. Lever-wood.
O. Virginiana (Mill.) Willd.
Rich woods and ravines; frequent. Last of April-Mid-May.

FAGACEAE. BEECH FAMILY.**FAGUS L. BEECH.**

466. **F. ferruginea** Ait. American Beech.
F. Americana Sweet.
Often forming groves with hard maple. May.

QUERCUS L. OAK.

467. *Q. alba* L. White Oak.
Uplands; common. May.
468. *Q. bicolor* Willd. Swamp White Oak.
Q. platanoides (Lam.) Sudw.
Low ground; common. Mid-May.
A large tree.
469. *Q. coccinea* Wang. Scarlet Oak.
Sterile soil; not infrequent. Mid-May.
470. *Q. macrocarpa* Michx. Bur Oak. Over- or Mossy-cup Oak.
Rich soil; frequent. Last of May.
471. *Q. Muhlenbergii* Engelm. Yellow Oak. Chestnut-Oak.
Q. acuminata (Michx.) Sarg.
Rich woods; occasional. Mid-May.
472. *Q. prinoides* Willd. Dwarf Chestnut-Oak.
Dry sandy soil; infrequent. Mid-May.
Hills about Lamberton Lake (O.H.); east bank of Grand River at Grand Island; abundant along the road, east of Plainfield Ave., one mile north of the Knapp Road. A shrub 2-4 feet high.
473. *Q. rubra* L. Red Oak.
Sandy soil; common. Mid-May.
A large tree.
474. *Q. velutina* Lam. (*Q. tinctoria* Bartram. Black Oak.)
Uplands; common. Last of May.
The acorns are exceedingly variable in all our species.

ULMACEAE. ELM FAMILY.

CELTIS L. NETTLE-TREE. HACKBERRY.

475. *C. occidentalis* L. Hackberry. Sugarberry.
Alluvial soil; frequent along Grand River. Mid-April.

ULMUS L. 'ELM.

476. **U. Americana** L. White or American Elm.

Common on rich soil or low ground. April.

477. **U. fulva** Michx. Slippery or Red Elm.

Rich moist soil; frequent. April.

478. **U. racemosa** Thomas. Cork or Rock Elm.

Hill-slopes and low ground along rivers; frequent. First of May.

MORACEAE. MULBERRY FAMILY.**CANNABIS L. HEMP.**

479. **C. SATIVA** L. Hemp.

Waste ground; frequent. Summer.

A native of Europe and Asia.

HUMULUS L. HOP.

480. **H. Lupulus** L. Common Hop.

Banks of streams and railroad embankments; frequent. July.

MACLURA Nutt.

Toxylon Raf.

M. aurantiaca Nutt. Osage Orange.

T. pomiferum Raf.

It does not escape far from hedges, scarcely naturalized. First of June.

MORUS L. MULBERRY.

481. **M. rubra** L. Red Mulberry.

Alluvial soil; occasional. June.

Along Grand River at Plainfield Village, Ada Village, West Bridge St. Ferry, Grandville; Cascade Springs; Plaster Creek.

Birds eagerly seek the fruit which is ripe in July.

URTICACEAE. NETTLE FAMILY.**BOEHMERIA Jacq. FALSE NETTLE.**

482. **B. cylindrica** Willd.

Moist shaded ground; common. July-Sept.

LAPORTEA Gaud. WOOD-NETTLE.*Urticastrum* Fabr.

- 483.
- L. Canadensis**
- Gaud.

U. divaricatum (L.) Kuntze.

Common in low woods. July-Sept.

PILEA Lindl. RICHWEED. CLEARWEED.*Adicea* Raf.

- 484.
- P. pumila**
- Gray. Richweed. Clearweed.

Moist woodlands. Common. July-Sept.

URTICA L. NETTLE.

- 485.
- U. gracilis**
- Ait.

Common. July-Aug.

SANTALACEAE. SANDALWOOD FAMILY.**COMANDRA** Nutt. BASTARD TOAD-FLAX.

- 486.
- C. umbellata**
- Nutt.

Dry soil, fields, and copses; common. May-June.

"Indifferently parasitic on roots."

ARISTOLOCHIACEAE. BIRTHWORT FAMILY.**ASARUM** L. ASARABACCA. WILD GINGER.

- 487.
- A. Canadense**
- L.

In rich moist woods and ravines; frequent. May.

POLYGONACEAE. BUCKWHEAT FAMILY.**FAGOPYRUM** Gaertn. BUCKWHEAT.

- 488.
- F. ESCULENTUM**
- Moench. Buckwheat.

F. Fagopyrum (L.) Karst.

Persists in fields after cultivation. Aug.

POLYGONELLA Michx.

- 489.
- P. articulata**
- Meisn.

In dry sand; infrequent. Aug.-Sept.

Silver Lake; Bostwick Lake; Little Bostwick Lake. Abundant at these stations. It grows sparingly on the bluffs along the Upper River Road.

POLYGONUM L. KNOTWEED.

490. **P. acre** HBK. Water Smartweed.
P. punctatum Ell.
Wet places; frequent. Aug.-Sept.
491. **P. amphibium** L.
In shallow water; frequent and variable. June-Aug.
492. **P. aviculare** L. Knot-grass. Door-weed.
Common. Aug.-Oct.
493. **P. cilinode** Michx.
Copses; frequent. July-Sept.
494. **P. CONVOLVULUS** L. Black Bindweed.
Common in waste or cultivated ground. July-Oct.
495. **P. erectum** L.
Common. Aug.-Sept.
496. **P. Hartwrightii** Gray.
In wet soil; infrequent. Aug.-Sept.
Wood Lake; Crooked Lake; G. R. & I. Ry., south of Burton Ave.; Miller's Lake.
497. **P. Hydropiper** L. Common Smartweed or Water-Pepper.
Low ground; common. Aug.-Sept.
498. **P. hydropiperoides** Michx. Mild Water-Pepper.
Low places; common. Aug.-Sept.
499. **P. incarnatum** Ell. (*P. lapathifolium incarnatum* Watson.)
In wet soil. Aug.-Sept.
Grand River at Grand Island (O.H.); Plainfield Village; Miller's Lake.
500. **P. lapathifolium** L.
Frequent along river banks. July-Sept.

501. **P. littorale** Link.
Frequent in waste places. Aug.-Sept.
Formerly included in *P. aviculare*.
502. **P. Muhlenbergii** Watson.
P. emersum (Michx.) Britton.
Swamps; infrequent. Aug.-Sept.
Miller's Lake; Grand Island; canal between Reed's Lake and Fisk Lake; L. S. & M. S. Ry., south of Burton Ave.; along the highway between Secs. 31 and 32, Vergennes.
503. **P. ORIENTALE** L. Prince's Feather.
Escaped from gardens; occasional. Aug.-Sept.
504. **P. Pennsylvanicum** L.
Low ground; frequent. Aug.-Sept.
505. **P. PERSICARIA** L. Lady's Thumb.
Common. Aug.-Oct.
506. **P. sagittatum** L. Arrow-leaved Tear-thumb.
Wet soil; common. Aug.-Sept.
507. **P. scandens** L. Climbing False Buckwheat.
Frequent in moist thickets. July-Sept.
508. **P. tenue** Michx.
Dry sandy soil; frequent. July-Aug.
Pine Hill; Lamberton Lake region; Oak Hill Cemetery; bluffs along the upper River Road; Little Bostwick Lake, and elsewhere.
509. **P. Virginianum** L.
Moist woods and thickets; common. Aug.-Sept.
- RUMEX** L. DOCK. SORREL.
510. **R. ACETOSELLA** L. Field or Sheep Sorrel.
Fields everywhere. May-Sept.
A native of Europe and Asia.
511. **R. altissimus** Wood. Pale Dock.
Low ground; infrequent. Mid-June-July.
Near the Glue Factory (Prof. C. F. Wheeler); banks of Grand

River, near Lower Swing Bridge (B.E.L.); West Michigan Fair Grounds (O.H.); Market Island (M.&C.); Front St., at Fulton St., City (S.O.L.); West Bridge St. Ferry (Mrs. Mary B. Fallass); near the Plaster Cave; Farm of Mrs. Martha Wells, Sec. 30, Vergennes; Rouge River, near the Plainfield Village Bridge. Rare in the State.

512. **R. Britannica** L. Great Water-Dock.
Frequent in marshes. Aug.—Sept.
513. **R. CRISPUS** L. Curled Dock. Narrow Dock.
Fields; common. June—Sept.
514. **R. OBTUSIFOLIUS** L. Bitter Dock.
Fields and roadsides; frequent. July—Sept.
515. **R. verticillatus** L. Swamp Dock.
River banks; frequent. Mid-June—July.

CHENOPODIACEAE. GOOSEFOOT FAMILY.

ATRIPLEX L. ORACHE.

516. **A. hastata** L. (A. patulum hastatum Gray.)
Waste places; well established. Aug.—Sept.

CHENOPODIUM L. GOOSEFOOT. PIGWEED.

517. **C. ALBUM** L. Lamb's Quarters. Pigweed.
Waste and cultivated ground; common. July—Sept.
518. **C. ALBUM VIRIDE** (L.) Moq.
Waste places; rare. Aug.—Sept.
In a field west of John Ball Park, City (O.H.).
519. **C. BOTRYS** L. Jerusalem Oak. Feather Geranium.
Waste places. July—Oct.
Escaped from gardens, becoming frequent in the City.
520. **C. capitatum** Watson. Strawberry Blite.
Blitum capitatum L.
Rich soil; infrequent. July—Sept.

Occasional along Grand River; Cedar Swamp; Saddle-Bag Swamp;
Mill Creek woods.

521. *C. GLAUCUM* L. Oak-leaved Goosefoot.

On the west bank of Grand River, near the Upper Swing
Bridge (O.H.). Rare. Aug.—Sept.

522. *C. hybridum* L. Maple-leaved Goosefoot.

Waste places; common. July—Sept.

523. *C. rubrum* L.

Saline places; rare. Aug.—Sept.

On the west bank of Grand River below the Lower Swing Bridge.

It does not turn red here (O.H.).

CYCLOLOMA Moq. WINGED PIGWEED.

C. platyphyllum Moq.

C. atriplicifolium (Spreng.) Coult.

Dumping ground in the City; not established. Summer.

Wealthy Ave., at Eureka St. (O.H.), 1895; Model Mills, in 1896.

SALSOLA L.

524. *S. TRAGUS* L. Russian Thistle.

Waste ground, well scattered throughout the City. Mid-June—
Sept.

"This pernicious weed is now established in over forty cities and
towns in Michigan."—Michigan Flora.

AMARANTACEAE. AMARANTH FAMILY.

ACNIDA L. WATER-HEMP.

525. *A. tamariscina concatenata* (Moq.) U. & B.

Moist ground. Aug.—Sept.

Grand River at Plainfield Village.

526. *A. tamariscina prostrata* U. & B.

In moist ground about Campau Lake. Aug.—Sept.

527. *A. tamariscina tuberculata* (Moq.) U.&B.

(*A. tuberculata* Moq.)

Low ground; frequent. July–Sept.

AMARANTUS L. AMARANTH.

528. *A. blitoides* Watson.

Fields and waste places; frequent. July–Aug.

Introduced from the West.

529. *A. graecizans* L.

(*A. albus* L.)

Fields and gardens; common. July–Sept.

430. *A. hybridus* L.

(*A. hypochondriacus* L.)

Sparingly escaped from gardens. Aug.–Oct.

There are a few plants near Crooked Lake (O.H.). Not observed elsewhere.

531. *A. retroflexus* L.

A common weed in gardens. July–Sept.

PHYTOLACCACEAE. POKEWEED FAMILY.

PHYTOLACCA L. POKEWEED.

532. *P. decandra* L. Garget. Poke. Scape. Pigeon-Berry.

Fields and waste ground; frequent. Aug.–Sept.

NYCTAGINACEAE. FOUR-O'CLOCK FAMILY.

OXYBAPHUS L'HER.

Allionia Loefl.

533. *O. hirsutus* Sweet.

Untilled ground. July–Aug.

Along the D. G. H. & M. Ry. embankments, west from the Junction (W.M.Clark), 1893. Still spreading. Introduced from the West.

AIZOACEAE. CARPET-WEED FAMILY.**MOLLUGO L. INDIAN-CHICKWEED.**

534. *M. verticillata* L. Carpet-weed.

Dry sandy soil, fields, and roadsides; frequent. Mid-July-Sept.

PORTULACACEAE. PURSLANE FAMILY.**CLAYTONIA L. SPRING-BEAUTY.**

535. *C. Virginica* L.

Moist rich woods; abundant. April.

Forms with three-cleft petals are occasional.

PORTULACA L. PURSLANE.

536. *P. OLERACEA* L. Common Purslane.

A common weed in gardens. July-Sept.

CARYOPHYLLACEAE. PINK FAMILY.**ARENARIA L. SANDWORT.**

537. *A. SERPYLLIFOLIA* L. Thyme-leaved Sandwort.

Common in sterile soil. May-June.

538. *A. stricta* Michx. (*A. Michauxii* Hook. f.)

Dry soil; occasional. Mid-May-Mid-June.

Hills about Burton Ave. Swamp; Lamberton and Crooked Lake regions; Plaster Creek; central Cannon; Pine Hill; Plainfield.

A delicate and pretty species.

CERASTIUM L. MOUSE-EAR CHICKWEED.

539. *C. nutans* Raf.

C. longipedunculatum Muhl.

In moist shaded places; rare. May-June.

Plainfield Village (H.W.Hyser).

540. *C. VULGATUM* L. Mouse-ear Chickweed.

Common in moist places. Summer.

DIANTHUS L. PINK. CARNATION.**541. D. DELTOIDES L. Maiden Pink.**

Escaped from gardens. Summer.

North Fuller St., north of East Bridge St., City.

D. PROLIFER L.

Escaped from a garden near the Buchanan St. School Building
(Mrs. E. P. Stephenson). Summer.

LYCHNIS L. COCKLE.**542. L. ALBA Mill.**

(*L. vespertina Sibth.*)

Cultivated or waste ground; frequent. Summer.

543. L. CORONARIA L. Mullein Pink.

Sparingly escaped from gardens. Summer.

It has maintained itself for more than 35 years in Sec. 32, Vergennes.

544. L. GITHAGO Scop. Corn Cockle.

Agrostemma Githago L.

Wheat fields and roadsides; common. June.

The seeds are poisonous.

SAPONARIA L.**545. S. OFFICINALIS L. Bouncing Bet. Soapwort.**

Roadsides and waste places; common. July-Oct.

Plants with double flowers are frequent.

SCLERANTHUS L. KNAWEI.**546. S. ANNUUS L.**

Untilled ground. Summer.

Abundant in a large vacant lot at the corner of Wealthy Ave.
and South Fuller St., City.

SILENE L. CATCHFLY. CAMPION.**547. S. antirrhina L. Sleepy Catchfly.**

Light soil; frequent. May-June.

548. **S. NOCTIFLORA** L. Night-flowering Catchfly.

In cultivated or waste places; frequent. June–Aug.

STELLARIA L. CHICKWEED. STARWORT.

Alsine L.

549. **S. longifolia** Muhl. Long-leaved Stitchwort.

Common in low ground. June–July.

550. **S. MEDIA** Cyrill. Common Chickweed.

Fields and gardens; common.

This little plant may be found in flower every month of the year.
Its stamens during the cold weather are generally reduced in number.

NYMPHAEACEAE. WATER-LILY FAMILY.**BRASENIA** Schreb. WATER-SHIELD.551. **B. peltata** Pursh.

B. purpurea (Michx.) Casp.

In lakes; frequent. Aug.

NUPHAR Sibth. & Smith. YELLOW POND-LILY. SPATTER-DOCK.

Nymphaea L.

552. **N. advena** R. Br.

In shallow muddy water of lakes; common. Summer.

NYMPHAEA L. WATER-NYMPH. WATER-LILY.

Castalia Salisb.

553. **N. odorata** Ait. Sweet-scented Water-Lily.

The rootstocks in Crooked Lake are not tuber bearing (O.H.).
Summer.

554. **N. tuberosa** Paine. Tuber-bearing Water-Lily.

In ponds and slow streams; frequent. Summer.

CERATOPHYLLACEAE. HORNWORT FAMILY.**CERATOPHYLLUM L. HORNWORT.****555. C. demersum L.**

Aquatic; common in lakes.

It has not been found in fruit here.

MAGNOLIACEAE. MAGNOLIA FAMILY.**LIRIODENDRON L. TULIP-TREE.****556. L. Tulipifera L.**

Moist woods; scarce. First of June.

Mill Creek woods; Reed's Lake; Berger Creek; East St. Pinery; West Bridge St. Formerly frequent but clearing and draining have made the soil drier, so that there are few young trees at present.

ANONACEAE. CUSTARD-APPLE FAMILY.**ASIMINA Adans. NORTH AMERICAN PAPAW.****557. A. triloba Dunal. Common Papaw.**

In moist or dry soil; occasional. Mid-May.

Frequent at the following stations: Grand River; Thornapple River; Plaster Creek; on the hills in Gaines and Jamestown. It has been found as far north as Ballards and this is probably its northern limits. It is a shrub 7-15 feet high, growing in clumps, and producing large, sweet, edible fruits which the frosts ripen.

RANUNCULACEAE. CROWFOOT FAMILY.**ACTAEA L. BANEERRY. COHOSH.****558. A. alba Mill. White Baneberry.**

Rich moist woods; infrequent. May.

559. A. spicata rubra Ait. Red Baneberry.

Found with the preceding species; frequent. May.

ANEMONE L. ANEMONE. WIND-FLOWER.

580. **A. acutiloba** Laws. (Hepatica acutiloba *D C.*)
Hepatica acuta (Pursh) Britton.
 Frequent in beech and maple woods. April–Mid-May.
 Leaves with five and even seven lobes are found.
581. **A. cylindrica** Gray. Long-fruited Anemone.
 Dry sterile soil; frequent. Last of June–July.
582. **A. Canadensis** L. (A. Pennsylvanica *L.*)
 Low ground; common. June–Aug.
583. **A. Hepatica** L. (Hepatica triloba *Chaix.* Liver-leaf.)
Hepatica Hepatica (L.) Karst.
 Frequent in oak woods. April–Mid-May.
584. **A. quinquefolia** L. Wind-flower. Wood Anemone.
 Hillsides, moist woodlands, and boggy marshes; frequent. Last
 of April–May.
A. nemorosa L. is the European species.
585. **A. thalictroides** L. Rue-Anemone.
Syndesmon thalictroides (L.) Hoffmg.
 In moist oak woods; infrequent. May.
 Abundant in the woods of Mrs. Maria Williams, Sec. 4, Paris;
 Vergennes; Alpine; Walker. A pretty spring species with white
 flowers often tinged with pink. It is frequently mistaken for
Isopyrum, from which it chiefly differs in its involucre leaves,
 tuberous roots, and umbellate flowers.
586. **A. Virginiana** L.
 Light soil, fields, and copses; frequent. Last of June–July.
 Plants with larger flowers, petals white and obtuse are occasional.

AQUILEGIA L. COLUMBINE.

587. **A. Canadensis** L. Wild Columbine.
 Open hillsides, ravines, and edges of low ground; frequent. Mid-
 May–June.

CALTHA L. MARSH MARIGOLD.**568. C. palustris L.**

Wet meadows and swamps; common. Mid-April-May.

CLEMATIS L. VIRGIN'S-BOWER.**569. C. Virginiana L. Common Virgin's-Bower.**

Banks of streams, thickets, and along railroad embankments; common. July-Aug.

COPTIS Salisb. GOLDTHREAD.**570. C. trifolia Salisb. Three-leaved Goldthread.**

Low cold woods; frequent. Mid-May.

East St. Pinery; Cedar Swamp; Mud Lake, Wright; Burton Ave. Swamp; Hudsonville Swamp; Sec. 25, Jamestown; Pine Island Lake; Mill Creek woods.

HYDRASTIS Ellis. ORANGE-ROOT. YELLOW PUCCOON.**571. H. Canadensis L. Golden Seal.**

Rich moist woods; scarce. May.

Only a few plants at any station, but well distributed.

ISOPYRUM L.**572. I. biternatum Torr. & Gray.**

Abundant in beech and maple woods. Mid-April-May.

It is often mistaken for *Anemone quinquefolia* from which it differs in its tuberous thickened, fibrous roots, alternate leaves, and few seeded fruit.

NIGELLA L.**N. DAMASCENA L. Fennel-flower.**

Spontaneous in gardens; rarely escapes. Summer.

RANUNCULUS L. CROWFOOT. BUTTERCUP.**573. R. abortivus L. Small-flowered Crowfoot.**

Moist soil; common. May-June.

574. **R. ACRIS** L. Tall Crowfoot or Buttercup.
In waste places. June.
Scattered along the railroads south of the City: C. & W. M. and
L. S. & M. S. (R. E. Matteson); D. G. R. & W. Ry. at First
Ave. (O.H); North Park Street Railway, near Sweet St., City.
Recently introduced.
575. **R. circinatus** Sibth. Stiff Water-Crowfoot.
Batrachium divaricatum (Schränk) Wimm.
Frequent in shallow water. June–Oct.
576. **R. fascicularis** Muhl. Early Crowfoot.
In dry sandy soil. Mid-April–May.
Common east and south of the City.
577. **R. multifidus** Pursh. Yellow Water-Crowfoot.
R. delphinifolius Torr.
In ponds and slow streams; becoming infrequent. Mid-April–May.
Perennial by rooting from the nodes of floating stems after
flowering.
578. **R. multifidus terrestris** Gray.
Muddy banks of pools; rare.
In May, 1891, plants were collected a little south of Plaster
Creek, just west of Madison Ave. (Edward Raignel).
No herbarium specimen.
579. **R. Pennsylvanicus** L. f. Bristly Crowfoot.
Marshes and wet places along streams; frequent. July–Aug.
580. **R. recurvatus** Poir. Hooked Crowfoot.
Rich woods and ravines; frequent. May–June.
581. **R. sceleratus** L. Cursed Crowfoot.
Swamps, ditches, and low ground; common and variable. Last
of May–June.
582. **R. septentrionalis** Poir.
Moist soil; frequent and variable. May–June.

The early form is almost smooth, and blooms near the first of May. About two weeks later a taller, stouter, hairier form comes into flower; growing in wetter places, with larger flowers.

THALICTRUM L. MEADOW-RUE.

583. **T. dioicum L.** Early Meadow-Rue.

Moist banks and ravines; common. Mid-April–Mid-May.

584. **T. purpurascens L.** Purplish Meadow-Rue.

Common in wet meadows. Summer.

BERBERIDACEAE. BARBERRY FAMILY.

BERBERIS L. BARBERRY.

585. **B. vulgaris L.** Common Barberry.

Occasionally found near old gardens. Last of May–Mid-June.

CAULOPHYLLUM Michx. BLUE COHOSH.

586. **C. thalictroides Michx.** Pappoose-root.

Moist rich soil; ravines, and woods; common. April–May.

JEFFERSONIA Barton. TWIN-LEAF.

587. **J. diphylla Pers.** Rheumatism-root.

Rich moist woods; rare. Mid-April.

Reed's Lake woods (O.H.). In the seventies, it grew in the woods along Plaster Creek, south of Hall St. (Miss Annah M. Clark).

PODOPHYLLUM L. MAY-APPLE. MANDRAKE.

588. **P. peltatum L.**

Common in rich soil. First of June.

MENISPERMACEAE. MOONSEED FAMILY.

MENISPERMUM L. MOONSEED.

589. **M. Canadense L.**

Moist woods and thickets; frequent. Mid-June.

LAURACEAE. LAUREL FAMILY.**LINDERA** Thunb. WILD ALLSPICE. FEVER-BUSH.*Benzoin* Fabric.590. **L. Benzoin** Blume. Spice-bush. Benjamin-bush.

A bushy shrub in low woods; frequent. Last of April.

In Gaines this species grows on dry ridges and is the companion of the papaw.

SASSAFRAS Nees. SASSAFRAS.591. **S. officinale** Nees.*S. Sassafras* (L.) Karst.

Hillsides and woods in sandy soil; common. May.

Usually a shrub or small tree, it occasionally reaches a diameter of 12 inches and 40 feet in height. A highly ornamental small tree.

PAPAVERACEAE. POPPY FAMILY.**CHELIDONIUM** L. CELANDINE.**C. MAJUS** L. Celandine.

Spontaneous for fifteen years or more on the premises of Dr. Shafer, Lyon St., City (B.E.L.). June.

PAPAVER L. POPPY.**P. RHOEAS** L. Field, Red or Corn Poppy.

Persists from self-sown seeds for a few seasons in or near gardens. Summer.

SANGUINARIA L. BLOOD-ROOT.592. **S. Canadensis** L.

Common in moist rich soil. April.

STYLOPHORUM Nutt. CELANDINE POPPY.593. **S. diphyllum** Nutt.

Moist beech and maple woods; infrequent. Mid-May-June. Jamestown; Byron; Alpine; Carlisle, and elsewhere.

FUMARIACEAE. FUMITORY FAMILY.**ADLUMIA Raf. CLIMBING FUMITORY.****594. A. cirrhosa Raf.***A. fungosa* (Ait.) Greene.

Reported from Grand Rapids previous to 1880 (Miss Mary H. Clark). In the U. of M. Herbarium.

CORYDALIS Vent.*Capnoides* Adans.**595. C. glauca Pursh. Pale Corydalis.***C. sempervirens* (L.) Borck.

Two plants were found in Burton Ave. Swamp near the "old saw-mill" (M.&C.), June 20, 1897.

DICENTRA Bernh. DUTCHMAN'S BREECHES.*Bicuculla* Adans.**596. D. Canadensis Walp. Squirrel Corn.**

Frequent in beech and maple woods. Mid-April–Mid-May.

597. D. Cucullaria Bernh. Dutchman's Breeches.

Frequent in moist rich woods. Mid-April–Mid-May.

CRUCIFERAE. MUSTARD FAMILY.**ALYSSUM L.****598. A. CALY CINUM L.***A. alyssoides* (L.) Gouan.

Waste places and along streets; well established, common in the City. May–June.

ARABIS L. ROCK CRESS.**599. A. Canadensis L. Sickle-pod.**

In oak openings and on the edges of fields. Summer.

The plants are well distributed but grow singly.

600. A. confinis Watson.*A. brachycarpa* (Torr. & Gray) Britton.

Dry hillsides; well distributed, but not common. June.

601. **A. dentata** Torr. & Gray.

Moist shaded soil. May-June.

Bank of Grand River at the Soldiers' Home (Prof.C.F.Wheeler);
Indian Mounds (S.E.Knappen).

602. **A. hirsuta** Scop.

Dry soil; rare. Summer.

Near Lamberton Lake (O.H); River Road, south of Fenness
Lake.

603. **A. laevigata** Poir.

Wooded hillside at the east end of Reed's Lake. Local. May-
June.

604. **A. lyrata** L.

Common in oak openings. May-July.

605. **A. perfoliata** Lam. Tower Mustard.

A. glabra (L.) Bernh.

In fields. June-July.

Frequent and well distributed south of the City.

BARBAREA. R. Br. WINTER CRESS.**B. stricta** Andrz.

This species has appeared in the vineyard of H. C. Smith, Sec.
8, Alpine, in 1899 and 1900. May.

606. **B. vulgaris** R. Br. Yellow Rocket. Common Winter Cress.

B. Barbarea (L.) MacM.

Becoming frequent in wet places. May-June,

BRASSICA L. MUSTARD.607. **B. ALBA** Boiss. White Mustard.

Sinapis alba L.

Waste places; occasional. Summer.

608. **B. CAMPESTRIS** L. Turnip.

Persists in fields after cultivation. Summer.

609. **B. JUNCEA** Cosson.

Untilled ground; scarce. June-July.

South Division St., at the D. G. R. & W. Ry. Crossing, City (O.H.), 1896. A weed recently introduced into this country. Native of Asia.

610. **B. NIGRA** Koch. Black Mustard.

A common weed. Summer.

611. **B. SINAPISTRUM** Boiss. English Charlock.

B. arvensis (L.) B.S.P.

A coarse troublesome weed in grain fields; increasing. Summer. Lower Swing Bridge; Jefferson Ave., near Silver Creek, City; near the Soldiers' Home; Jenison.

CAMELINA Crantz. FALSE FLAX.612. **C. SATIVA** Crantz.

Fields and roadsides; becoming frequent. Mid-May-June.

CAPSELLA Medic. SHEPHERD'S PURSE.

Bursa Weber.

613. **C. BURSA-PASTORIS** Medic.

A common weed. Summer.

CARDAMINE L. BITTER CRESS.614. **C. flexuosa** (With.) Wood.

Wet woods and shallow streams; frequent. May-June.

This species and the two following take the place of *C. hirsuta* L. in the Michigan Flora of 1892.

615. **C. parviflora** L.

In wet places. May.

616. **C. Pennsylvanica** Muhl.

In wet ground; frequent. May.

617. **C. pratensis** L. Cuckoo Flower.

Moist meadows and lake borders; infrequent. May.

Reed's Lake; Fisk Lake; Orchid Swamp; Burton Ave. Swamp; Lamberton Lake region.

New plants are propagated by the dropping of the leaflets, or by the rooting of the leaflets which lie close to the ground. On the upper side of the base of the leaf, a little bud appears which forms a stem; this sends out rootlets and a new plant is formed.

618. *C. purpurea* (Torr.) Britton. Purple Cress.

Wet woods; common. Mid-April-Mid-May.

619. *C. rhomboidea* DC. Spring Cress.

C. bulbosa (Schreb.) B.S.P.

Wet places; common. Mid-May.

DENTARIA L. TOOTHWORT. PEPPER-ROOT.

620. *D. diphylla* Michx. Crinkle-root.

Rich wet soil; frequent. Mid-April-Mid-May.

621. *D. laciniata* Muhl.

Moist wooded ground; common. Mid-April-Mid-May.

The typical form has whorled leaves, and leaflets sharply toothed. Growing with this are forms with alternate, rather long-petioled leaves; also forms with leaves opposite.

DIPLLOTAXIS DC.

- D. muralis* DC. Sand Rocket.

Spontaneous on the premises of F. Skeels, corner of Jefferson Ave. and Burton Ave., City. (O.H.). Summer.

Seeds were taken from here and sown in the Botanical Garden of M.A.C. It spread rapidly and was soon found throughout the Garden.

DRABA L. WHITLOW-GRASS.

622. *D. Caroliniana* Walt.

Sandy fields; abundant. April.

Hillsides about Lamberton Lake; untilled ground north-east and south of the City.

ERYSIMUM L. TREACLE MUSTARD.

- E. asperum* DC. Western Wall-flower.

A few specimens have been collected in a meadow along South

Division St., Sec. 19, Paris (Le Grande Albee), June, 1900.
Adventive.

623. **E. cheiranthoides** L. Worm-seed Mustard.

Along streams; occasional. Summer.

Grand River at Grand Island, Ada Village; Rouge River at Plainfield Village.

LEPIDIUM L. PEPPERWORT. PEPPERGRASS.

624. **L. intermedium** Gray.

L. apetalum Willd.

Common along roads. June-Oct.

625. **L. Virginicum** L. Wild Peppergrass.

A common roadside weed. June-Oct.

NASTURTIUM R. Br. WATER-CRESS.

Roripa Scop.

626. **N. ARMORACIA** Fries. Horseradish.

Escaped from gardens; frequent in wet places. May-June.

627. **N. lacustre** Gray. Lake Cress.

R. Americana (Gray) Britton.

Found growing near the Glue Factory; scarce. Summer.

The lower leaflets drop off and take root.

628. **N. OFFICINALE** R. Br. True Water-Cress.

R. Nasturtium (L.) Rusby.

Frequent in brooks. Summer.

629. **N. palustre** DC. Marsh Cress.

Common in wet places. Summer.

630. **N. palustre hispidum** Gray.

R. hispida (Desv.) Britton.

Same location as the preceding species; frequent. Summer.

631. **N. SYLVESTRE** R. Br. Yellow Cress.

Untilled ground. Mid-June-July.

Well established in 1899 in the "tree nursery" of John Ball Park, City (Dr. Helen E. Brown). Probably recently introduced.

RAPHANUS L.

632. **R. RAPHANISTRUM** L. Wild Radish. Jointed Charlock.
In fallow and waste ground. Summer.
Frequent south and west of the City (B.E.L.); Division St. at
Ridge Ave., City (O.H.).

SISYMBRIUM L. HEDGE MUSTARD.

633. **S. canescens** Nutt. Tansy Mustard.
Sophia pinnata (Walt.) Britton.
Untilled ground; local. May-June.
Along the River Road at Berger Creek; Grandville Road at the
C. & W. M. Ry. Crossing (R.E.Matteson).

S. IRIO L.

There are several large clumps in a meadow along South Division St., Sec. 19, Paris, June, 1900. Introduced from Europe. It has appeared in the United States in a few places along the Atlantic coast in ballast.

634. **S. OFFICINALE** Scop. Hedge Mustard.
A common weed. June-Oct.

CAPPARIDACEAE. CAPER FAMILY.

CLEOME L.

635. **C. integrifolia** Torr & Gray.
C. serrulata Pursh.
Since 1895, it has maintained itself on dumping-ground at the corner of Sherman St. and Union St., City (M.&C.). Summer. Introduced from the West.

POLANISIA Raf.

636. **P. graveolens** Raf.
Dry gravelly bluffs of Scotch Creek (H.W.Hyser). Rare. July.

SARRACENIACEAE. PITCHER-PLANT FAMILY.**SARRACENIA L. SIDE-SADDLE FLOWER.**

637. **S. purpurea** L. Side-saddle Flower. Huntsman's Cup.

In sphagnum. June.

Abundant at Bronner Lake; Stafford Lake; Carmody Lake; Mud Lake, Plainfield; Mud Lake, Wright; Morgan Lake, and elsewhere.

A curious and most interesting plant; its leaves are used to capture insects; its flowers are particularly adapted to secure cross-fertilization by insects.

DROSERACEAE. SUNDEW FAMILY.**DROSERA L. SUNDEW.**

638. **D. intermedia Americana** DC.

Sphagnous bogs; occasional. July.

Round Lake (Allen Wolcott); Miller's Lake; Frawley Lake; Carmody Lake.

639. **D. rotundifolia** L. Round-leaved Sundew.

Sphagnous bogs; frequent. July.

The plants in this genus are insectivorous.

CRASSULACEAE. ORPINE FAMILY.**PENTHORUM L. DITCH STONE-CROP.**

640. **P. sedoides** L.

In low wet places; common. Aug.-Sept.

SEDUM L. STONE-CROP. ORPINE.

641. **S. acre** L. Mossy Stone-crop.

Escaped from cultivation to roadsides near dwellings; occasional. June.

642. **S. telephium** L. Live-for-ever. Garden Orpine.

Sparingly escaped from gardens to roadsides. Aug.-Sept.

SAXIFRAGACEAE. SAXIFRAGE FAMILY.**CHRYSOSPLENIUM L. GOLDEN SAXIFRAGE.****643. C. Americanum Schwein.**

In cold springy places; infrequent. April-May.
Plaster Creek near the Paris Town Hall; Hudsonville Swamp;
Burton Ave. Swamp.

HEUCHERA L. ALUM-ROOT.**644. H. Americana L. Common Alum-root.**

Shaded banks and hillsides; nowhere abundant, but well distributed. Mid-June-Mid-July.

MITELLA L. MITRE-WORT. BISHOP'S-CAP.**645. M. diphylla L.**

Common in rich moist woods. May.

646. M. nuda L.

In deep cold woods; local. May.
Burton Ave. Swamp (Bernard Nichols); Cedar Swamp; Sec. 25,
Jamestown; Hudsonville Swamp.

PARNASSIA L. GRASS OF PARNASSUS.**647. P. Caroliniana Michx.**

In bogs and springy places; frequent. Aug.

SAXIFRAGA L. SAXIFRAGE.**648. S. Pennsylvanica L. Swamp Saxifrage.**

In swamps and on wet banks; common. May.

GROSSULARIACEAE. GOOSEBERRY FAMILY.**RIBES L. CURRANT. GOOSEBERRY.****649. R. aureum Pursh. Buffalo or Missouri Currant.**

Persistent near old gardens. May.

650. R. Cynosbati L. Gooseberry.

In moist shaded places; common. May.

651. **R. floridum** L'Her. Wild Black Currant.
Common in low ground. May.
652. **R. oxyacanthoides** L. Swamp Gooseberry.
In wet woods; frequent. May.
653. **R. rubrum** L. Red Currant.
Cold bogs and deep swamps, associated with tamaracks and arbor-vitae; infrequent. May.
Burton Ave. Swamp; Cedar Swamp; Sec. 25, Jamestown; Hudsonville Swamp; Secs. 30 and 31, Byron. The parent of our cultivated currant. It grows everywhere in this latitude.

HAMAMELIDACEAE. WITCH-HAZEL FAMILY.**HAMAMELIS L. WITCH-HAZEL.**

654. **H. Virginiana** L.
Common on hillsides and in moist woods. Oct.
It closes the season of flowering plants. On warm dry days in October the inner coat of the seed-pod bursts with a quick, sharp report and the seeds are often thrown several feet, thus engaging in a lively fusilade.

PLATANACEAE. PLANE-TREE FAMILY.**PLATANUS L. SYCAMORE. BUTTONWOOD.**

655. **P. occidentalis** L.
Frequent along streams. May.
"The largest tree of the Atlantic forests."—Sargent.

ROSACEAE. ROSE FAMILY.**AGRIMONIA L. AGRIMONY.**

656. **A. hirsuta** (Muhl.) Bicknell. (A. *Eupatoria* L.)
Frequent in woods and thickets. July–Aug.
657. **A. mollis** (Torr. & Gray) Britton.
Found growing with the preceding. July–Sept.

658. **A. parviflora** Soland. Small-flowered Agrimony.

In moist or dry soil; occasional. July–Sept.

FRAGARIA L. STRAWBERRY.

659. **F. Americana** (Porter) Britton.

(*F. vesca Americana* Porter.)

Moist woods. May.

Soldiers' Home woods; Gillon's woods, Sec. 25, Byron; near Fisher Station; Caledonia Village. Abundant northward in the State.

660. **F. Virginiana** Duchesne.

Copses and meadows; abundant. May.

The variety *Illinoensis* Gray is included in the species.

GEUM L. AVENS.

661. **G. album** Gmel.

G. Canadense Jacq.

Moist soil; common. Mid-May–July.

662. **G. rivale** L. Water or Purple Avens.

Not uncommon in wet soil. May.

663. **G. strictum** Ait.

Common in moist meadows. July–Mid-Aug.

664. **G. triflorum** Pursh.

G. ciliatum Pursh.

Sterile soil. May 15–30.

In the summer of 1900 several small patches were discovered, scattered along a "wood-road," on the east side of the S. E. $\frac{1}{4}$ of the N. W. $\frac{1}{4}$ of Sec. 15, Cascade.

Mrs. Keziah Livingston, a pioneer settler, reports this species as having been abundant in 1842 on dry gravelly soil, south of Burton Ave., between East St. and South Division St., and as having gradually disappeared after settlements began. But afterwards no trace of it was found by botanists until 1897 when Miss Jennie Livingston found a patch containing about one hun-

dred plants, on the bluffs of Plaster Creek, east of Madison Ave. This was destroyed in the autumn of 1898 when the land was cleared and cultivated. It has been reported only from two other localities in the State.

665. **G. Virginianum** L.

Common in moist soil. Summer.

NEILLIA D. Don. NINE-BARK.

Opulaster Medic.

666. **N. opulifolia** Benth. & Hook.

A shrub; common along streams. June.

Its recurved branches, clusters of white flowers, and reddish seed-pods render it ornamental.

POTENTILLA L. CINQUE-FOIL. FIVE-FINGER.

667. **P. argentea** L. Silvery Cinque-foil.

A weed forming large patches to the exclusion of grass on light soil; common. Summer.

668. **P. arguta** Pursh.

Light soil. June.

A stiff plant, growing in small patches, but well distributed, flowers white.

669. **P. fruticosa** L. Shrubby Cinque-foil.

Common on swamp borders and in low meadows. Summer.

670. **P. Norvegica** L.

P. Monspeliensis L.

Common in damp soil of fields. July-Oct.

671. **P. palustris** Scop. Marsh Five-Finger.

Comarum palustre L.

In swamps and sphagnous bogs; well distributed, but nowhere abundant. July-Aug.

672. **P. simplex** Michx. (P. *Canadensis* L.)

Common in fields. May-July.

ROSA L. ROSE.

673. *R. blanda* Ait.

Occasional north and east of the City. Mid-May-June.

It grows on high clay land in the Lamberton, Crooked, and Reed's Lake regions.

674. *R. Carolina* L.

Borders of swamps and low ground; common. July.

675. *R. CINNAMOMEA* L. Cinnamon Rose.

Persists by roadsides near pioneer dwellings. May.

676. *R. humilis* Marsh.

Common on dry sandy soil. June-July.

On very dry soil the fruits and pedicels are often glandular-hispid.

677. *R. RUBIGINOSA* L. Sweetbrier.

Roadsides and thickets; frequent. June-July.

RUBUS L. BRAMBLE.

678. *R. Canadensis* L. Dewberry. Low Blackberry.

Common and troublesome in dry sandy soil. June.

Fruit large and juicy.

679. *R. hispidus* L. Running Swamp Blackberry.

Abundant on the margins of swamps. June.

680. *R. neglectus* Peck.

Intermediate between *R. occidentalis* and *R. strigosus*, and often grows with them; infrequent. June.

Abundant in woods, west of Bowen Station along the D. G. R. & W. Ry.; Farm of H. C. Smith, Sec. 8, Alpine; north of Round Lake (Prof. R. H. Wolcott); Kalamazoo Ave. at Burton Ave. (M.&C.); Soldiers' Home.

681. *R. occidentalis* L. Black Raspberry. Thimbleberry.

Common on uplands. June.

It often extends into the edges of marshes and grows with

R. strigosus. The white berried variety is spontaneous on and about Oak Hill Farm, Sec. 32, Vergennes, where the birds have scattered the seeds from the garden.

682. *R. setosus* Bigel.

In damp or marshy ground; not infrequent. June.

683. *R. strigosus* Michx. Wild Red Raspberry.

In thickets and low ground; common and variable. June.

684. *R. triflorus* Richards. Dwarf Raspberry.

R. Americanus (Pers.) Britton.

Not uncommon in moist rich woods. May.

685. *R. villosus* Ait. Common or High Blackberry.

In woods and thickets; common. Mid-June–Mid-July.

The blackberry of the markets.

SPIRAEA L. MEADOW-SWEET.

686. *S. lobata* Jacq. Queen of the Prairie.

Ulmaria rubra Hill.

Marshes; rare. July.

M. C. Ry. and G. R. & I. Ry., south of Burton Ave.; Feakin's Marsh (O.H.). A perennial herb with panicles of feathery, rose-colored flowers, often seen in cultivation.

687. *S. salicifolia* L. Common Meadow-Sweet.

A common shrubby plant in marshes. July–Aug.

688. *S. tomentosa* L. Hardhack. Steeple-Bush.

A low shrub on the edges of marshes and lakes; infrequent. July–Aug.

Abundant about Soft Water Lake; Silver Lake; Campau Lake; Laraway Lake.

WALDSTEINIA Willd.

689. *W. fragarioides* Tratt. Barren Strawberry.

Moist beech and maple woods. May.

This species came under the personal observation of the writer

in 1890 and '91, but unfortunately no specimens were preserved, and the stations were not noted with certainty.

POMACEAE. APPLE FAMILY.

AMELANCHIER Medic. JUNE-BERRY.

690. *A. Canadensis* Medic. Shad-bush. Service-berry.

Common in moist woods. May.

A shrub or small tree, the extremes of variation are:—First, leaves ovate, sharply serrate, smooth; flowers in open, drooping racemes, petals an inch long, young shoots and racemes smooth: Secondly, leaves smaller, racemes closer, petals shorter, young shoots, leaves, and racemes densely tomentose. The fruit is so eagerly devoured by birds that it is difficult to find it well ripened.

691. *A. Canadensis oblongifolia* Torr. & Gray.

A. Botryapium (L. f.) DC.

A low shrub on light soil; infrequent.

D. G. H. & M. Ry., east of the City; along Hogadone Creek.

It blooms about two weeks later than the preceding species.

692. *A. rotundifolia* (Michx.) Roem.

There are several clumps along the highway, east of Crooked Lake. May.

CRATAEGUS L. HAWTHORN. WHITE THORN.

The members of this genus are so variable and confusing that it seems advisable to study first the most common species in their order of flowering which is quite constant in ordinary seasons as: 697 followed by 693, 696, 698, 694, 700.

693. *C. coccinea* L.

Thickets and hillsides; common. May 20–30.

Leaves when young pubescent above, smooth beneath, rarely pubescent at the veins; young shoots smooth; calyx-lobes, bracts, and pedicels sparingly glandular.

694. *C. Crus-galli* L. Cockspur Thorn.

Common in low ground. June 1-8.

695. *C. intricata* Lange.

Dry sandy soil; occasional.

Lamberton Lake region; bluffs of Plaster Creek, near the Paris Town Hall; bluffs west of the D. G. H. & M. Ry. Junction. A low shrub with slender spines, leaves smooth and reddish when young, cymes few-flowered, calyx-lobes and bracts glandular, blooms a little later than *C. coccinea*.

696. *C. macracantha* Lodd.

Frequent in moist soil. May 27-June 5.

Leaves with appressed hairs above, densely pubescent beneath, rarely confined to the veins; fruit small and of a rich glossy red. Our plant is probably *C. succulenta* of Schrader which Prof. Sargent now considers merely a variety of *C. macracantha*. Our finest thorn.

697. *C. mollis* Torr. & Gray.

Common. Mid-May.

The largest of the thorns, often 25 feet high and 12 inches in diameter.

698. *C. punctata* Jacq.

Common. June 4-12.

699. *C. rotundifolia* (Ehrh.) Borek.

A bushy shrub, leaves thick, usually incised; spines long and slender; cymes few-flowered. It is the companion of *C. intricata* and blooms at the same time.

700. *C. tomentosa* L.

A low shrub; occasional. June 10-18.

The plant is often unarmed. It retains its fruit during winter.

PYRUS L. PEAR. APPLE.

701. *P. Americana* DC. American Mountain Ash.

Sorbus Americana Marsh.

In thickets; occasional. June.

Probably spontaneous from seeds dropped by birds.

702. **P. arbutifolia** L.f. Choke-berry.
Aronia arbutifolia (L.) Ell.
 Frequent on lake margins and in swamps. May.
703. **P. arbutifolia melanocarpa** Hook.
Aronia nigra (Willd.) Britton.
 Growing with the preceding species. May.
- P. AUCUPARIA** L. European Mountain Ash.
Sorbus Aucuparia L.
 Along Fourth St. Probably spontaneous from seeds scattered
 by birds from trees on adjacent premises. May.
704. **P. coronaria** L. American Crab-Apple.
Malus Coronaria (L.) Mill.
 Tickets and wet soil; common. May.
 The flowers are much admired for their color and fragrance,
 fruit green and bitter.
705. **P. MALUS** L. Cultivated Apple.
Malus Malus (L.) Britton.
 Spontaneous in thickets along roadsides. May.
706. **P. sambucifolia** Cham. & Schlect. Elder-leaved Mountain
Sorbus sambucifolia (Cham. & Schlect.) Roem. [Ash.
 In cold boggy marshes. June.
 Spontaneous about Mud Lake and Mill Lake, Plainfield, where
 birds have carried the seeds from trees near these localities
 (S.R.Wright).

DRUPACEAE. PLUM FAMILY.

PRUNUS L. PLUM. CHERRY.

707. **P. Americana** Marsh. Wild Yellow or Red Plum.
 Rich alluvial soil; common. May.
 Mr. C. F. Holt tells of quite an extensive grove of these trees
 which grew on his father's farm in Cascade, in early days. The
 fruit being yellow, sweet, and large, was eagerly sought by the

settlers and the Indians, the latter coming for miles to gather it. This grove was destroyed in 1897. A few of the trees were transplanted to his orchard and still remain.

708. *P. AVIUM* L. Sweet Cherry.

Frequently escapes from cultivation to roadsides in the vicinity of farm-houses. Mid-May.

709. *P. CERASUS* L. Sour Cherry.

Roadsides, escaped from cultivation. Mid-May.

710. *P. nigra* Ait. Red Plum. Canada Plum.

Moist soil; infrequent. May.

Coldbrook Creek, near East Bridge St., City(F.); Hogadone Creek; Alaska; woods west of the D. G. H. & M. Ry. Junction.

711. *P. Pennsylvanica* L.f. Wild Red Cherry.

A small tree; frequent on sandy soil. Mid-May.

712. *P. PERSICA* Stokes. Peach.

Amygdalus Persica L.

Occasional by roadsides. First of May.

It probably will never become frequent as it does not thrive in sod.

713. *P. pumila* L. Dwarf Cherry. Sand Cherry.

Frequent in dry sandy soil. Last of May—first of June.

714. *P. serotina* Ehrh. Wild Black Cherry.

Woods; frequent. Mid-May—first of June.

715. *P. Virginiana* L. Choke-Cherry.

A shrub or small tree; very abundant on light soil. Mid-May—first of June.

CAESALPINACEAE. SENNA FAMILY.

CASSIA L. SENNA.

716. *C. Marylandica* L. Wild Senna.

Alluvial soil; occasional. Mid-July—Sept.

Grandville; Ada Village; Plainfield Village; L. S. & M. S. Ry., near the Plaster Cave. Abundant at these stations.

CERCIS L. RED-BUD. JUDAS-TREE.**717. C. Canadensis L.**

Alluvial soil. May.

Plaster Creek; along Grand River at Ada Village, Plainfield Village, Grandville; along Pleasant Valley Creek, near West Bridge St. Ferry; abundant on the banks and islands of the Thornapple River. It fruits abundantly.

GLEDITSCHIA L. HONEY-LOCUST.**718. G. triacanthos L. Three-thorned Acacia. Honey-Locust.**

Escaped from cultivation. First of June.

There are a number of small sized trees growing along Grand River, on the Farm of E. Pettis, Sec. 21, Ada, and along Honey Creek near its mouth. The pioneer settlers say, that these trees have sprung from pods brought by high water from a tree between Ada Village and the bridge. According to Mrs. Jas. Miller this parent tree was planted when a mere twig by Mrs. Smith in her yard at Ada in 1838 or '39. This species is indigenous along the streams in the southern part of the State.

GYMNOCLADUS Lam. KENTUCKY COFFEE-TREE.**719. G. Canadensis Lam.**

G. dioica (L.) Kock.

Low woods; scarce. Mid-June.

Near Ross Station (S.); at the mouth of Honey Creek (E. Pettis); Lower Swing Bridge (Prof. R. H. Wolcott). There were three trees on the farm of N. H. Stevenson, Sec. 10, Alpine. One of these was transplanted about 17 years ago to the farm of J. Anderson near Ballards, and now has a circumference of 62 inches, and is 40 feet high (Harold Stevenson). There is a row of these trees found in front of the "old hotel" a little south of Corinth. It reaches its northern limits in the Grand River Valley.

PAPILIONACEAE. PEA FAMILY.

AMORPHA L. FALSE INDIGO.

- 720.
- A. canescens*
- Nutt. Lead-Plant.

Dry bluffs at Plainfield Village; scarce. Mid-June-Mid-July.
Rare in the State.

AMPHICARPA Ell. HOG PEA-NUT.

Falcata Gmel.

- 721.
- A. monoica*
- Ell.

F. comosa (L.) Kuntze.

Fields and woods; common. Aug.-Sept.

Subterranean flowers are abundant when the plant grows in moist soil; in dry soil the flowers are produced on the stem.

- 722.
- A. Pitcheri*
- Torr. & Gray.

In wet woods along Page Creek (Mrs. Mary E. Bennett). Aug.

APIOS Moench.

- 723.
- A. tuberosa*
- Moench. Ground-nut. Wild Bean.

A. Apios (L.) MacM.

Abundant on low ground. Aug.

The long underground shoots bear numerous, tuberous thickenings which are edible. It rarely fruits in the State.

ASTRAGALUS L. MILK-VETCH.

- 724.
- A. Cooperi*
- Gray.

Phaca neglecta Torr. & Gray.

On steep banks. June.

Rather abundant on the Lakeside Club Grounds, Reed's Lake; Rouge River at Plainfield Village, it also occurs at intervals along this River above the Village. Infrequent in the State, although well distributed.

DESMODIUM Desv. TICK-TREFOIL.

Meibomia Adans.

- 725.
- D. acuminatum*
- DC.

M. grandiflora (Walt.) Kuntze.

In woodlands; common. Mid-July-Aug.

726. **D. Canadense** DC.

Frequent along streams and in moist soil. Aug.

727. **D. cuspidatum** Hook.

M. bracteosa (Michx.) Kuntze.

Moist hillsides under oak; occasional. Aug.

728. **D. Dillenii** Darl.

In oak woods; frequent. July-Aug.

Childsdales; Mill Creek woods; Plainfield Village; woods near the Fish Pond; Campau Lake, and elsewhere. Variable as to pubescence.

729. **D. Illinoense** Gray.

Dry bluffs at Plainfield Village; near Childsdales (Dr. Wm. Hyser).

Rare. July.

730. **D. Marylandicum** Boott.

Hillsides in oak woods; occasional. Aug.

Woods near the Fish Pond; Ross Station (S.); Sec 3, Plainfield.

731. **D. nudiflorum** DC.

Common in light soil. Aug.

732. **D. paniculatum** DC.

Common in oak woods. Aug.

733. **D. rigidum** DC.

In dry soil; scarce. Aug.

Bank of Grand River at Plainfield Village.

734. **D. rotundifolium** DC.

M. Michauxii Vail.

Frequent in oak openings. Aug.

735. **D. sessilifolium** Torr. & Gray.

Rather plentiful on the bluffs at Plainfield Village. Aug.

Rare in the State.

LATHYRUS L. VETCHLING. EVERLASTING PEA.736. **L. myrtifolius** Muhl.

In moist soil; infrequent. July.

Along the G. R. & I. Ry., north of Burton Ave., (R. E. Matteson);
Fisk Lake (M. & C.); Sec. 28, Vergennes.

L. LATIFOLIUS L.

Escaped from a garden and persistent for 30 years or more in
unoccupied ground at the corner of Morris Ave. and Cherry
St., City (F.). Summer.

737. L. ochroleucus Hook.

Oak woods and shaded hillsides; frequent. Mid-May—first of June.
Infrequent in the State.

738. L. palustris L.

Abundant in moist ground. July.

739. L. venosus Muhl.

Abundant on hillsides and along railroad embankments. June.
Infrequent in the State.

LESPEDeza Michx. BUSH-CLOVER.

740. L. capitata Michx.

Old fields in light soil; common. Aug.

741. L. polystachya Michx.

L. hirta (L.) Ell.

Common in sandy woods and in old fields. Aug.

742. L. reticulata Watson. (L. Stuvei intermedia Watson.)

L. frutescens (L.) Britton.

Common in light soil. Aug.

743. L. Stuvei Nutt.

Dry sandy soil; rare. Aug.

Oak Hill Farm, Sec. 32, Vergennes (Allen S. Bennett).

744. L. violacea Pers.

Gravelly or clay banks; infrequent. Aug.

• Bluffs at Plainfield Village; bluffs along Rouge River, Plain-
field; Thornapple River; Cascade Gravel Road.

LUPINUS L. LUPINE.

745. **L. perennis L.** Wild Lupine.

Growing in masses on light soil. May.

Flowers are blue, white, purple, or pink; forms with pink flowers are found along Hogadone Creek (W.M.Clark).

MEDICAGO L. MEDICK.

746. **M. LUPULINA L.** Black Medick. Nonesuch.

Waste places; well distributed throughout the City. June-Sept.

747. **M. SATIVA L.** Lucerne. Alfalfa.

Escaped from cultivation to roadsides; becoming frequent. June-Oct.

MELILOTUS Juss. MELILOT. SWEET CLOVER.

748. **M. ALBA Desv.** White Melilot.

Frequent in and about the City in waste ground. June-Oct.

749. **M. OFFICINALIS Lam.** Yellow Melilot.

Becoming frequent in waste ground in the City. June-Oct.

ROBINIA L. LOCUST-TREE.

750. **R. Pseudacacia L.** Common Locust or False Acacia.

Escaped from cultivation; frequent. First of June.

751. **R. viscosa Vent.** Clammy Locust.

Escaped from gardens to roadsides; occasional. Mid-June.

Lake Ave., east of the Masonic Home (Miss Grace Fyfe); along the road one mile north of the Knapp Road, and east of Plainfield Ave. (S.O.L.); Cascade Gravel Road; central Cannon; near Alpine Station; Beal's Road.

TEPHROSIA Pers. HOARY PEA.

Cracca L.

752. **T. Virginiana Pers.** Goat's Rue. Catgut.

Frequent in oak openings. Last of June-July.

TRIFOLIUM L. CLOVER. TREFOIL.

753. **T. ARVENSE L.** Rabbit-foot or Stone Clover.

East Bridge St. at Coldbrook Creek (O.H.). Rare. Summer.

754. **T. DUBIUM** Sibth. (T. *procumbens minus Gray.*)

Untilled ground; local. June.

Scattered along the C. & W. M. Ry., south of the City, from here it has spread to the immediate woods and pastures (Miss Harriet Macey).

755. **T. HYBRIDUM L.** Alsike Clover.

Escaped from cultivation; becoming frequent. May-Oct.

T. INCAENATUM L. Crimson Clover.

Recently introduced into cultivation and is in the experimental stage in this section. Scarcely self-maintaining. An annual and a native of the Mediterranean region.

756. **T. PRATENSE L.** Red Clover.

Fields and roadsides; common. Oct.

757. **T. PROCUMBENS L.** Low Hop-Clover.

Abundant on the Lakeside Club Grounds, Reed's Lake (O. H.).
Mid-June-July.

758. **T. repens L.** White Clover.

Pastures and roadsides; common. May-Oct.

VICIA L. VETCH. TARE.

759. **V. Americana** Muhl.

Abundant along railroad embankments and edges of moist ground. June.

760. **V. Caroliniana** Walt.

Common in sterile soil. May.

GERANIACEAE. GERANIUM FAMILY.**ERODIUM L'Her. STORKSBILL.**

761. **E. CICUTARIUM L'Her.** Storksbill.

Fields and waste places. Summer.

Frequent in the southern part of the City; northern part of Paris.

GERANIUM L. CRANESBILL.**762. G. Bicknellii** Britton.

In dry sandy soil of an old pinery, Sec. 20, Plainfield (H.W.Hyser). Summer.

Recently separated from the following species.

763. G. Carolinianum L.

Light sandy soil; scarce. Summer.

East Bridge St., City(F.); at the south-west corner of the woods along the D. G. H. & M. Ry., one mile west of the Junction.

764. G. maculatum L. Wild Cranesbill.

Common in moist woods. May-June.

765. G. pusillum L.

Waysides and waste places. Summer.

Well distributed throughout the City, and is now invading the surrounding country.

766. G. Robertianum L. Herb Robert.

In moist rich woods, chiefly beech and maple. June-Oct.

It is frequent in the tier of townships in the south and west border of the district; it also occurs in the woods of V. Harrington, Sec. 2, Walker.

OXALIDACEAE. WOOD-SORREL FAMILY.**OXALIS L. WOOD-SORREL.****767. O. cymosa** Small. Tall Yellow Wood-sorrel.

In woods and fields; common. Summer.

768. O. stricta L. Yellow Wood-sorrel.

Waysides, fields, and gardens; common. Summer.

LINACEAE. FLAX FAMILY.**LINUM L. FLAX.****769. L. striatum** Walt.

Abundant in moist shaded ground along the E. shore of Cam-pau Lake. July.

This the second station known in the State.

770. *L. sulcatum* Riddell.

Plentiful on the edges of the Plainfield Village "gravel-pit."
July-Aug.

This is the only station known at present for this species in the State. A specimen by Dr. Wright is in the U. of M. Herbarium.

***L. USITATISSIMUM* L. Common Flax.**

Untilled ground. July-Aug.

Spontaneous about the West Michigan Fair Grounds; along the C. & W. M. Ry., south of City (O.H.); Court St., City; along the G. R. & I. Ry. (S.O.L.).

771. *L. Virginianum* L.

In moist shaded ground; infrequent. June-July.

Lamberton Lake region; Crooked Lake region; Vergennes; John Ball Park, City; on the bank of a creek near the school-house on the Upper River Road.

RUTACEAE. RUE FAMILY.**PTELEA L.****772. *P. trifoliata* L. Hop-tree. Shrubby Trefoil.**

Common along streams. June.

XANTHOXYLUM L. PRICKLY ASH.**773. *X. Americanum* Mill. Northern Prickly Ash.**

Abundant along streams and in low ground. May.

SIMARUBACEAE. AILANTHUS FAMILY.**AILANTHUS Desf.****774. *A. GLANDULOSA* Desf.**

Spontaneous about the City from seeds and suckers. Mid-June.

POLYGALACEAE. MILKWORT FAMILY.**POLYGALA L. MILKWORT.****775. *P. cruciata* L.**

Diamond St. Swamp, City (O.H.), Aug. 12, 1894. Rare.

776. *P. paucifolia* Willd. Fringed Polygala.

Moist soil under tamaracks; local. May.

Swamps north of Burton Ave., just east of the G. R. & I. Ry., City (B.E.L.); along the south branch of Lamberton Creek (S.O.L.); Diamond St. Swamp, City (O.II.). A low plant with large rose-purple flowers.

777. *P. polygama* Walt.

Light sandy soil; infrequent. July.

John Ball Park and vicinity (O.H.); in fields south of Hall St. (M.&C.); Vergennes; woods on the hillsides along the Upper River Road. This species bears subterranean flowers which fruit abundantly.

778. *P. sanguinea* L.

P. viridescens L.

In moist soil; local. Aug.—Sept.

Silver Creek at Hall St. and at East St.(O.H.); south of Masonic Home; between Kalamazoo Ave. and Burton Ave. (M.&C.); Sec. 32, Vergennes; Campau Lake (Edward Campau).

779. *P. Senega* L. Seneca Snakeroot.

Frequent in tufts on banks. Mid-May—Mid-June.

Abundant in Orchid Swamp; banks of Lamberton Creek at the Soldiers' Home; Indian Mill Creek.

EUPHORBIACEAE. SPURGE FAMILY.

ACALYPHA L. THREE-SEEDED MERCURY.

780. *A. Virginica* L.

Fields; variable and common. Aug.—Sept.

EUPHORBIA L. SPRUGE.

781. *E. commutata* Engelm.

Light soil along the banks of streams; infrequent. May—July.

Along Plaster Creek at the Paris Town Hall (Lloyd Ford); at Madison Ave. (Miss Amy Conger); along Sand Creek in Alpine and in Wright (Roy Tucker); Grand River at Plainfield Village.

782. *E. corollata* L.

Common in dry sandy soil. July-Aug.

783. *E. CYPARISSIAS* L.

Escaped from old gardens; frequent. May.

784. *E. maculata* L.

Fields and roadsides; common. July-Oct.

E. PEPLUS L.

Spontaneous about a hedge on the premises of D. Skeels, Third Ave., City (O.H.). Aug.-Nov.

Escaped from cultivation and becoming occasional in the State.

785. *E. Preslii* Guss.*E. nutans* Lag.

In fields and neglected ground; common along railroad embankments. Aug.-Oct.

ANACARDIACEAE. CASHEW FAMILY.

RHUS L. SUMAC.

786. *R. copallina* L. Dwarf Sumac.

Frequent in light soil on pine land. Last of July-Mid-Aug.

Eastern part of Alpine; about Jenison; Cascade Gravel Road; Caledonia; Cannon; Vergennes.

787. *R. glabra* L. Smooth Sumac.

Dry soil; common and variable. Mid-July.

A shrub equaling in size *R. typhina*.

788. *R. Toxicodendron* L. Poison Ivy. Poison Oak.*R. radicans* L.

Abundant in moist soil. June.

Two forms of stems are common, one climbing by rootlets even to the tops of forest trees with stems several inches in diameter; the other low and trailing.

789. *R. typhina* L. Staghorn Sumac.*R. hirta* (L.) Sudw.

Dry hillsides; frequent. First of July.

It is not uncommon that the inflorescence of this species consists of abortive flowers or even changes to leaves.

790. *R. venenata* DC. Poison Sumac or Dogwood.

R. Vernix L.

Frequent in cold swamps. June.

A shrub, bark grayish, leaves bright green, fruit white in a pyramidal cluster.

ILICINEAE. HOLLY FAMILY.

ILEX L. HOLLY.

791. *I. verticillata* Gray. Black Alder. Winterberry.

Low ground. Last of June.

Abundant on the edges of swamps where it is conspicuous by its bright red berries in early winter.

NEMOPANTHUS Raf. MOUNTAIN HOLLY.

Illicioides Dumont.

792. *N. fascicularis* Raf.

I. mucronata (L.) Britton.

Edges of sphagnous swamps; frequent and well distributed. Mid-May.

CELASTRACEAE. STAFF-TREE FAMILY.

CELASTRUS L. STAFF-TREE. SHRUBBY BITTER-SWEET.

The fruit of this genus opens after frosts and discloses a crimson, pulpy, ariled seed.

793. *C. scandens* L. Wax-work. Climbing Bitter-sweet.

Banks of streams and in moist soil; frequent. Mid-June.

EUONYMUS L. SPINDLE-TREE.

794. *E. atropurpureus* Jacq. Wahoo. Burning-Bush.

Alluvial soil; infrequent. June.

Grand River at West Bridge St. Ferry (M.&C.); Plainfield

Village (H.W.Hyser); Boynton's Landing; woods south of Reed's Lake (Miss Grace Fyfe).

This species was formerly frequent, but it has been dug up and sold for medicinal purposes; now it is chiefly found in unfrequented places. There are four light colored lines running the length of each internode of the previous year's growth, and along the lower ones of the present year's growth of which Prof. W. W. Rowlee of Cornell University says: "These lines are the beginnings of cork wings, and are unquestionably identical in structure and function with lenticels." It is often cultivated as an ornamental shrub.

795. *E. obovatus* Nutt. Running Strawberry Bush.
Abundant in rich moist woods. Mid-May.

STAPHYLEACEAE. BLADDER-NUT FAMILY.

STAPHYLEA L. BLADDER-NUT.

796. *S. trifolia* L. American Bladder-nut.
Frequent along streams. May.
Easily recognized in autumn by its inflated three-angled pods.

ACERACEAE. MAPLE FAMILY.

ACER L. MAPLE.

797. *A. Pennsylvanicum* L. Striped Maple.
Moist rich woods. Mid-May-Mid-June.
Burton Ave. Swamp (O.H.). No herbarium specimen.
798. *A. rubrum* L. Red or Swamp Maple.
Ravines and edges of swamps; common. April.
799. *A. saccharinum* L. (*A. dasycarpum* Ehrh. Silver Maple.)
Low woods; common. April.
It divides near its base into several trunks, becoming clump-like. Wier's Maple, so frequently seen on lawns, is a deeply cut leaf form of this species.

800. **A. Saccharum** Marsh. Rock or Sugar Maple.

Abundant in rich soil. May.

It forms large groves, or is intermingled with beech.

801. **A. Saccharum nigrum** Britton. Black Maple.

Growing with the species; frequent. May.

It differs from the species in having darker bark; large, broad, shallow-lobed leaves, pubescent beneath, the sides of which generally droop.

802. **A. spicatum** Lam. Mountain Maple.

Cold moist woods with evergreens. Mid-May–Mid-June.

Cedar swamp (Weatherwax Part); Sec. 25, Jamestown; Secs. 30 and 31, Byron. Abundant at these stations. Common in the northern part of the State, but rare as far south and inland as this locality.

NEGUNDO Moench. ASH-LEAVED MAPLE. BOX-ELDER.

Acer L.

803. **N. aceroides** Moench.

A. Negundo L.

Alluvial soil. Mid–April.

Along Plaster Creek (B.E.L.); banks of Grand River. A small tree extensively planted now as a shade tree in and about the City.

BALSAMINACEAE. JEWEL-WEED FAMILY.

IMPATIENS L. BALSAM. JEWEL-WEED.

804. **I. aurea** Muhl. (*I. pallida* Nutt. Pale Touch-me-not.)

In low woods and along streams, less frequent than the following species. July–Aug.

805. **I. biflora** Walt. (*I. vulva* Nutt. Touch-me-not.)

Marshes and banks of streams; common. July–Aug.

Corolla often pale yellow.

RHAMNACEAE. BUCKTHORN FAMILY.**CEANOTHUS L. NEW JERSEY TEA. RED-ROOT.**806. **C. Americanus L.** New Jersey Tea.

Frequent in oak openings. July.

RHAMNUS L. BUCKTHORN.807. **R. alnifolia L'Her.**

Common in marshes and in low ground. Mid-May-June.

VITACEAE. VINE FAMILY.**AMPELOPSIS Michx. VIRGINIAN CREEPER.***Parthenocissus* (L.) Planch.808. **A. quinquefolia Michx.**

Woods and thickets; common. July.

It climbs by disks mostly.

809. **A. quinquefolia vitacea Knerr.***P. quinquefolia laciniata* Planch.

Woods and thickets; common. July.

Climbs by tendrils as the grape-vine.

VITIS L. GRAPE.810. **V. bicolor Le Conte.** Winter Grape.

Frequent on warm sandy hillsides. June.

The young shoots and tendrils are generally red.

811. **V. vulpina L.**(V. *riparia Michx.*)

Abundant along streams. June.

The young shoots and tendrils are usually green. Fruit small, glaucous, and pleasant to the taste.

TILIACEAE. LINDEN FAMILY.**TILIA L. LINDEN. BASSWOOD.**812. **T. Americana L.** Basswood. Linden.

Abundant in low rich ground. Mid-July.

MALVACEAE. MALLOW FAMILY.**ABUTILON** Gaertn. **INDIAN MALLOW.**

813. **A. AVICENNAE** Gaertn. Velvet-leaf.

A. Abutilon (L.) Rusby.

Banks of streams and waste places. Aug.—Oct.

Near the mouth of Plaster Creek (R. E. Matteson); Coldbrook Creek; Grandville; Lower Swing Bridge.

ALTHAEA L.

A. ROSEA Cav. Hollyhock.

Escaped from gardens and persists along waysides in many places. July—Aug.

HIBISCUS L. **ROSE-MALLOW.**

814. **H. Moscheutos** L. Swamp Rose-Mallow.

Brackish marshes. Mid-Aug.

In 1885 or '86 there were hundreds of plants in the marsh about the Salt Spring (L.S. Livingston). There are only six clumps of plants remaining in 1900. It is not known to occur elsewhere within our limits. Rare in the State.

815. **H. TRIONUM** L. Bladder Ketmia.

Escaped from cultivation. Summer.

Salt Spring Marsh (B.E.L.); LaGrave St. at Burton Ave., City (O.H.). Increasing in the State.

MALVA L. **MALLOW.**

816. **M. MOSCHATA** L. Musk Mallow.

Waysides, escaped from gardens; occasional. Last of June—Sept.

817. **M. ROTUNDIFOLIA** L. Common Mallow.

Common in waste places. June—Oct.

HYPERICACEAE. ST. JOHN'S-WORT FAMILY.**HYPERICUM** L. **ST. JOHN'S-WORT.**

818. **H. ASCYRON** L. Great St. John's-wort.

Rich alluvial soil. July.

Silver Creek at Jefferson Ave., City (Mrs. Hattie M. Bailey Pieters); roadside between Secs. 28 and 29, Vergennes; Sand Creek, west line of Sec. 22, Wright; marsh near Lamberton Lake, Sec. 8, Grand Rapids (S.). Stations remote and plants few.

819. **H. Canadense** L.

Wet sandy soil; infrequent. July–Oct.

Near Diamond St. Swamp, City (O.H.); Soft Water Lake; Crooked Lake; Silver Lake; Campau Lake.

820. **H. Canadense majus** Gray.

Frequent in wet soil. July–Aug.

821. **H. Kalmianum** L. Kalm's St. John's-wort.

Moist soil; occasional. July–Aug.

Plaster Creek at Burton Ave. and Madison Ave.; Carlton Creek; Belmont; Wood Lake; Silver Lake; Lamberton Lake region; Crooked Lake region.

822. **H. maculatum** Walt.

Banks and woods; common. July–Aug.

823. **H. mutilum** L.

Moist soil; common. July–Sept.

824. **H. PERFORATUM** L. Common St. John's-wort.

Pastures and roadsides. July–Aug.

A weed becoming too common; the acrid juice is troublesome to grazing animals.

825. **H. prolificum** L. Shrubby St. John's-wort.

A low shrubby plant; common in moist ground. July–Sept.

826. **H. Virginicum** L. (*Elodes campanulata* Pursh. Marsh St. *Triadenum Virginicum* (L.) Raf. John's-wort.)

Common in wet soil. Mid-July–Aug.

CISTACEAE. ROCK-ROSE FAMILY.

HELIANTHEMUM Pers. ROCK-ROSE.

827. **H. Canadense** Michx. Frost-weed.

Gravelly or sandy soil; frequent. Mid-June–July.

LECHEA L. PINWEED.

828. *L. major* Michx.*L. villosa* Ell.

Common in light soil. July–Sept.

In autumn a rosette of new root-leaves appears which persists through the winter.

VIOLACEAE. VIOLET FAMILY.

SOLEA Spreng. GREEN VIOLET.

Cubelium Raf.829. *S. concolor* Ging.

Rich damp woods; scarce. Last of May.

Reed's Lake (Eugene Palmer); woods of Mr. Lowes, Sec. 16, Grand Rapids (Miss Elsie Lowes); Soldiers' Home woods.

It fruits sparingly here. Closed flowers are occasionally produced at the summit of the stem in late summer and autumn.

VIOLA L. VIOLET. HEART'S-EASE.

830. *V. blanda* Willd. Sweet White Violet.

Bogs and low ground; common and variable. Last of April–May.

831. *V. blanda palustriformis* Gray.*V. blanda amoena* (Le Conte) B.S.P.

Burton Ave. Swamp. May.

832. *V. Canadensis* L. Canada Violet.

Abundant in beech and maple woods. Mid-May–Oct.

833. *V. canina Muhlenbergii* Gray.*V. Labradorica* Schrank.

Common in moist soil. Mid-April–May.

834. *V. lanceolata* L. Lance-leaved Violet.

Moist soil; local. Mid-May–Mid-June.

Abundant on the shore of Soft Water Lake (Prof. R. H. Wolcott); Lamberton Lake (S.O.L.); Burton Ave. Swamp (R. E. Matteson); roadside and ditches north of East St. Pinery.

835. *V. ovata* Nutt. Ovate-leaved Violet.

Some fine specimens of this species grow in a sterile spot in the East St. Pinery (Prof. C. F. Wheeler). It blossoms a little earlier than *V. sagittata*.

836. *V. palmata* L. Common Blue Violet.

Frequent on dry shaded hillsides. May.

Bluffs of Plaster Creek; hillsides about Burton Ave. Swamp. In dry soil the later leaves are variously lobed at the base, in wet soil they do not have this characteristic.

837. *V. palmata cucullata* Gray.

Common and variable. May.

The color of the corolla is purple, blue, white, or variegated as that of the preceding species.

838. *V. pedata* L. Bird-foot Violet.

Sandy fields and hillsides; common. May.

Forms with white corollas are rare. The plant frequently blooms a second time in autumn.

839. *V. pedata bicolor* Pursh.

Grows with the preceding species; infrequent. May.

The two upper petals are of a deep velvety violet. Variations in coloring between this and the preceding are occasional.

840. *V. pubescens* Ait. Downy Yellow Violet.

Common in moist rich soil. May.

841. *V. rostrata* Pursh. Long-spurred Violet.

In moist shaded soil. May.

Well distributed and rather frequent.

842. *V. sagittata* Ait. Arrow-leaved Violet.

In moist soil; occasional. May.

Silver Creek at East St.; East St. Pinery; Morgan Lake; west of Reed's Lake. The fruit is generally produced on long pedicels from closed flowers which appear in mid-summer.

843. *V. scabriuscula* (Torr. & Gray) Schwein.

Prefers beech and maple woods. May.

844. *V. striata* Ait. Pale Violet.

Frequent in rich moist woods. Mid-May–Mid-June.

This species often flowers a second time in autumn. Closed flowers are produced at the summit of the stem.

V. tricolor L. Pansy. Heart's-ease.

Straying more or less from gardens and becoming depauperate and small flowered. Summer.

THYMELEACEAE. MEZEREUM FAMILY.

Dirca L. LEATHERWOOD. MOOSEWOOD.

845. *D. palustris* L.

Low rich woods. Mid-April–First of May.

Frequent in Georgetown; Saddle-Bag Swamp region; Soldiers' Home woods.

LYTHRACEAE. LOOSESTRIFE FAMILY.

Decodon J.F.Gmel. SWAMP LOOSESTRIFE.

846. *D. verticillatus* Ell.

Common around lakes with submerged or marshy margins. Aug.

ONAGRACEAE. EVENING-PRIMROSE FAMILY.

Circaea L. ENCHANTER'S NIGHTSHADE.

847. *C. alpina* L.

Cold woods growing on or near decaying logs; frequent. July–Aug.

848. *C. lutetiana* L.

Common in rich moist woods. July–Aug.

EPILOBIUM L. WILLOW-HERB.

849. *E. adenocaulon* Haussk.

Common in wet soil. July–Aug.

850. **E. angustifolium** L. Great Willow-herb. Fire-weed.

Chamaenerion angustifolium (L.) Scop.

Common on newly cleared swamp-lands. July-Aug.

851. **E. lineare** Muhl.

Bogs and sphagnous marshes; infrequent. Aug.-Sept.

Pine Island Lake; Cedar Swamp; Plaster Creek, west of South Division St.; Saddle-Bag Swamp region. Chiefly a northern plant.

852. **E. palustre** L.

Moist soil; infrequent. Aug.-Sept.

Cedar Swamp; Pine Island Lake.

853. **E. strictum** Muhl.

Bogs and sphagnous marshes; infrequent. Aug.-Sept.

Cedar Swamp; Orchid Swamp (B.E.L.); Fisk Lake.

GAURA L.

854. **G. biennis** L.

Along Plaster Creek in an old field, east of South Division St. (O.H.). Aug.-Oct.

Rare in the State.

LUDWIGIA L. FALSE LOOSESTRIFE.

855. **L. palustris** Ell. Water Purslane.

Isnardia palustris L.

Common in low ground, often growing in shallow water. July-Aug.

OENOTHERA L. EVENING PRIMROSE.

856. **OE. biennis** L. Common Evening Primrose.

Onagra biennis (L.) Scop.

Fields and untilled ground; common. July-Sept.

The flowers open suddenly.

857. **OE. fruticosa** L. Sundrops.

Kneiffia fruticosa (L.) Raimann.

Dry, gravelly or sandy banks; occasional. July.

Roadsides about East St. Pinery; Vergennes; Silver Creek at East St.; Lamberton Lake region; D. G. H. & M. Ry., east of the City.

858. **OE. pumila** L.

Kneiffia pumila (L.) Spach.

Dry soil in Burton Ave. Swamp; rare. July.

HALORAGACEAE. WATER-MILFOIL FAMILY.

MYRIOPHYLLUM L. WATER-MILFOIL.

859. **M. heterophyllum** Michx.

It grows sparingly in still, shallow places in the Thornapple River. July-Aug.

Rare in the State.

860. **M. spicatum** L.

In shallow water. July-Aug.

Abundant in Reed's Lake.

861. **M. tenellum** Bigel.

It grows abundantly in sand, in shallow water on the margin of Little Bostwick Lake. Aug.-Sept.

This is the first mention of its occurrence in the State.

862. **M. verticillatum** L.

In shallow water. July-Aug.

Abundant in the creek connecting Larkins' Lake and Tobey Lake.

PROSERPINACA L. MERMAID-WEED.

863. **P. palustris** L.

Marshes and ditches. Aug.-Sept.

Common about Reed's Lake and Fisk Lake; Silver Lake, and elsewhere.

ARALIACEAE. GINSENG FAMILY.

ARALIA L. GINSENG. WILD SARSAPARILLA.

864. **A. hispida** Vent. Bristly Sarsaparilla. Wild Elder.

In sphagnum swamps; scarce. Mid-June-Mid-July.

Along East Bridge St., near Twin Lakes; south-west side of the swamp about Spruce Lake.

865. *A. nudicaulis* L. Wild Sarsaparilla.

Banks and ravines in shaded places; common. May.

866. *A. quinquefolia* Decsne. & Planch. Ginseng.

Panax quinquefolium L.

Rich moist woods. Last of June.

Formerly common and well distributed. It has been nearly exterminated by digging the roots for profit.

867. *A. racemosa* L. Spikenard.

Ravines and rich woods; frequent. Aug.

868. *A. trifolia* Decsne. & Planch. Ground-nut. Dwarf Ginseng.

Panax trifolium L.

Frequent in thickets and rich woods. May.

UMBELLIFERAE. PARSLEY FAMILY.

ANGELICA L.

869. *A. atropurpurea* L.

A tall, coarse plant in marshes and along streams. Mid-June-July.

BERULA Hoffm.

- B. angustifolia* Koch.

B. erecta (Huds.) Coville.

Cold springy places. Aug.

This species has been found at Fallassburg and may be looked for in this district. Infrequent in the State.

CARUM L. CARAWAY.

870. *C. CARUI* L. Caraway.

Escaped from cultivation to roadsides; occasional. July.

CHAEROPHYLLUM L.

871. *C. procumbens* Crantz.

In moist shaded ground; occasional. May.

Along Plaster Creek; banks of Grand River at the following stations: Ada Village (Miss Birdie Bennett); Indian Mounds (O.H.); Annahdale Farm, Sec. 5, Wyoming (Parke McMullen).

CICUTA L. WATER HEMLOCK.

872. **C. bulbifera L.**

Common in swamps and shallow ditches. Aug.-Sept.

The bulblets are produced to the exclusion of the flowers.

873. **C. maculata L.** Spotted Cowbane. Beaver-Poison.

Swamps and low ground; common. July-Sept.

The root is very poisonous.

CONIOSELINUM. Hoffm.

874. **C. Canadense Torr. & Gray.** Hemlock-Parsley.

C. Chinense (L.) B.S.P.

In cold marshes and swamps; infrequent. Sept.

Mill Creek; Plaster Creek; Indian Mill Creek; Grand River; Burton Ave. Swamp.

CONIUM L. POISON HEMLOCK.

875. **C. MACULATUM, L.**

Roadsides; infrequent. July-Aug.

Near the Plainfield Village Ferry; Upper Ada Road, west of the Village; near the mouth of Honey Creek, and scattered along the highway toward the Ada Ferry. Fruit extremely poisonous.

CRYPTOTAENIA DC. HONEWORT.

Deringa Adans.

876. **C. Canadensis DC.**

Common in low ground. June-July.

DAUCUS L. CARROT.

877. **D. CAROTA L.**

In fields and waste places; becoming frequent. July-Aug.

Rockford; south of the City; Kinney Station; Plainfield Village; Fountain St. Cemetery, City; Vergennes; Englishville.

ERIGENIA Nutt. **HARBINGER-OF-SPRING.**878. **E. bulbosa** Nutt.

In low woods; common. Last of March–April.

Our earliest spring flower, it appears even before the snow has left the shady nooks.

FOENICULUM Adans. **Fennel.**879. **F. vulgare** Gaertn.

(*F. officinale* All.)

F. Foeniculum (L.) Karst.

Escaped from gardens; rare. July–Sept.

Grandville (O.H.).

HERACLEUM L. **Cow-worsnip.**880. **H. lanatum** Michx.

Low ground; frequent. June.

A stout plant with large leaves. It is well distributed, but nowhere very abundant.

HYDROCOTYLE L. **Water Pennywort.**881. **H. Americana** L.

Boggy ground, ditches, and creek margins; common. July–Aug.

882. **H. umbellata** L.

Sandy shores of lakes; local. Aug.

N. E. shore of Fisk Lake (R.E.Matteson); “picnic grounds” at Pine Island Lake; Heffron Lake.

OSMORRHIZA Raf. **Sweet Cicely.**

Washingtonia Raf.

883. **O. brevistylis** DC.

W. Claytoni (Michx.) Britton.

Common in rich moist woods. May–June.

884. **O. longistylis** DC.

Grows with the preceding. May–June.

PASTINACA L. PARSNIP.885. **P. SATIVA L.**

Waste places and dumping-ground. July-Aug.

Rockford; Plainfield Village; Reed's Lake; Hogadone Creek;
roadsides in Jamestown and Walker.

PIMPINELLA L.886. **P. integerrima (L.) Gray.**

In dry soil, hillsides, and thickets; abundant. June-July.

SANICULA L. SANICLE. BLACK SNAKEROOT.887. **S. Canadensis L.**

In beech and maple woods; scattered, but frequent. June-July.

888. **S. gregaria Bicknell.**

In moist woods and thickets; occasional. June-July.

889. **S. Marylandica L.**

Common in moist, oak woods. June-July.

SIUM L. WATER PARSNIP.890. **S. cicutaefolium Gmel.**

Common in low ground. Aug.-Sept.

TIEDEMANNIA DC.

Orypolis Raf.

891. **T. rigida** Coult. & Rose. Cowbane.

Marshes and creek margins; frequent. Aug.

Fish Pond; Plaster Creek; Button Lake; Scotch Creek; Campau
Lake; Clear Lake; Page Creek, and elsewhere. This species is
not found much north of latitude 43°.

ZIZIA Koch.892. **Z. aurea** Koch.

Low ground; common. June-July.

Confused with *Thaspium aureum* Nutt. which is not known to
grow in the State.

893. *Z. cordata* DC.

Dry shaded bluffs along the Thornapple River at Pine Hill and near the mouth of Hulburt Creek. June-July.

Rare in the State.

CORNACEAE. DOGWOOD FAMILY.

CORNUS L. CORNEL. DOGWOOD.

894. *C. alternifolia* L. f.

Moist banks and ravines; frequent. June.

895. *C. Canadensis* L. Dwarf Cornel. Bunch-Berry.

Borders of sphagnous swamps and cold woods. June.

East St. Pinery; Orchid Swamp; Mud Lake, Wright; in pine woods about three miles north-west of North Park (Prof. R. H. Wolcott). Common in the northern part of the State, rare in the southern part.

896. *C. candidissima* Marsh. (*C. paniculata* L'Her.)

Hillsides and copses; common. Mid-June.

897. *C. circinata* L'Her. Round-leaved Dogwood.

On the south-west side of Pine Hill; rare. Mid-June.

898. *C. florida* L. Flowering Dogwood.

A small tree in oak woods; frequent. Mid-May.

The involucre is formed from the enlarged flower bud-scales.

899. *C. sericea* L. Silky Cornel. Kinnikinnik.

C. Amonum Mill.

Low ground and along streams; common. First of June.

The inner bark was used by the Indians for smoking.

900. *C. stolonifera* Michx.

Common in low ground. Mid-May-first of June.

Locally called "red willow."

NYSSA L. Tupelo. PEPPERIDGE. SOUR GUM TREE.

901. *N. sylvatica* Marsh. Pepperidge. Tupelo.

Swamp borders; frequent. June.

A medium sized tree, only a few trees at any one station, but well distributed.

PYROLACEAE. WINTERGREEN FAMILY.

CHIMAPHILA Pursh. PIPSISSEWA.

902. **C. maculata** Pursh. Spotted Wintergreen.
In oak woods; rare. July.
Farm of G. W. Collar Sec. 15, Ada; Mill Creek woods (O.H.),
(R.E. Matteson).
903. **C. umbellata** Nutt. Pipsissewa. Prince's Pine.
Frequent in woods with occasional pine. July.

PYROLA L. SHIN-LEAF. WINTERGREEN.

904. **P. elliptica** Nutt. Shin-leaf.
Common in rich woods. July.
905. **P. rotundifolia** L.
Dry, oak woods with occasional pine; frequent. July.
906. **P. rotundifolia uliginosa** Gray.
In sphagnum bogs under tamaracks; rare. July.
Mud Lake, Plainfield; Mud Lake, Wright.
907. **P. secunda** L.
In woods and thickets; common. June-Mid-July.

MONOTROPACEAE. INDIAN-PIPE FAMILY.

MONOTROPA L. INDIAN PIPE.

908. **M. Hypopitys** L. Pine-sap. False Beech-drops.
Hypopitys Hypopitys (L.) Small.
In dry, oak woods with pine; rare. July-Aug.
Mill Creek woods in 1892 (O.H.), in 1896 (S.O.L.); west line of
Sec. 32, Vergennes; in East St. Pinery the flowers are cream-colored (Le Grande Albee).
909. **M. uniflora** L. Indian Pipe. Corpse-Plant.
Damp woods; frequent. July.

ERICACEAE. HEATH FAMILY.

ANDROMEDA L.

910. *A. polifolia* L.

Sphagnous bogs; frequent. May.

ARCTOSTAPHYLOS Adans. BEARBERRY.

911. *A. Uva-ursi* Spreng. Bearberry.

In dry sandy soil; occasional. May.

Oak Hill Cemetery, City; hills about Burton Ave. Swamp (O.H.); abundant on the E. shore of Silver Lake (H. W. Hyser); Sec. 33, Cannon; Upper River Road, near the school-house.

CASSANDRA Don. LEATHER-LEAF.

Chamaedaphne Moench.

912. *C. calyculata* Don.

In marshes and swamps; common. Mid-April–Mid-May.

Small swamps are frequently wholly overgrown by it.

EPIGAEA L. TRAILING ARBUTUS. GROUND LAUREL.

913. *E. repens* L.

Abundant in low woods intermingled with pine. April.

Lobes of corolla varying from three to eight (S.O.L.). It seldom fruits in this locality.

GAULTHERIA Kalm. AROMATIC WINTERGREEN.

914. *G. procumbens* L. Creeping Wintergreen.

Low woods and borders of swamps; common. July.

LEDUM L. LABRADOR TEA.

915. *L. Groenlandicum* Oeder. (*L. latifolium* Ait.)

Sphagnous swamps; rare. First of June.

Burton Ave. Swamp (L. S. Livingston), 1885 to '86; Saddle-Bag Swamp (O.H.), 1893. No herbarium specimens have been preserved.

VACCINIACEAE. HUCKLEBERRY FAMILY.

CHIOGENES Salisb. CREEPING SNOWBERRY.

916. *C. serpyllifolia* Salisb. Creeping Snowberry.

C. hispidula (L.) Torr. & Gray.

Sphagnous swamps; rare. May.

Found creeping over decayed logs in Cedar Swamp, near the Blendon Road.

GAYLUSSACIA HBK. HUCKLEBERRY.

917. *G. resinosa* Torr. & Gray. Black Huckleberry. Crackleberry. Abundant in light soil, also found in swamps. Mid-May–Mid-June.

VACCINIUM L. BLUEBERRY. BILBERRY. CRANBERRY.

918. *V. Canadense* Richards.

Edges of sphagnous swamps; occasional. June.

Carmody Lake; Bronner Lake; Spruce Lake. A low shrub, berries blue, with a bloom. One of the market berries of the northern lake regions.

919. *V. corymbosum* L. Swamp-Blueberry.

Sphagnous swamps; common and variable. Mid-May–first of June.

The berry of our home markets. The variety *amoenum* Gray is a hairier form scarcely to be separated.

920. *V. corymbosum atrococcum* Gray. Black Blueberry.

Sphagnous swamps. Mid-May–first of June.

Rather abundant about Carmody Lake, found growing with *V. corymbosum*.

921. *V. macrocarpon* Ait. Large or American Cranberry.

Oxycoccus macrocarpus (Ait.) Pers.

In sphagnous bogs; frequent. June–July.

The cranberry of the markets.

922. *V. Oxycoccus* L. Small Cranberry.

Oxycoccus Oxycoccus (L.) MacM.

Sphagnous bogs; infrequent. Mid-June–Mid-July.

923. *V. Pennsylvanicum* Lam. Dwarf Blueberry.

Dry woods or hillsides; common. May.

The lowest of the blueberries, and ripens its fruit about a month before the other species in this locality.

924. *V. vacillans* Soland. Low Blueberry.

Dry woods and copses; infrequent. May.

Edges of the Big Marsh; Pine Island Lake; near Belmont.

PRIMULACEAE. PRIMROSE FAMILY.**LYSIMACHIA L. LOOSESTRIFE.**925. *L. NUMMULARIA* L. Moneywort.

In moist places; becoming frequent. July–Aug.

Reed's Lake (S.); Fisk Lake; west bank of Grand River, near the Plaster Cave (O.H.); south of the Indian Mounds (M.&C.); field south of the Standard Oil Works, Butterworth Ave., City (Mrs. Mary B. Fallass); ditches along the highway between Secs. 7, Walker and 12, Tallmadge (Roy Tucker).

926. *L. quadrifolia* L.Thickets and hillsides in oak woods; infrequent. Mid-June–July.
John Ball Park, City; Sec. 32, Vergennes.927. *L. stricta* Ait.*L. terrestris* (L.) B.S.P.

Edges of marshes; frequent. July.

Plants with bulblets in the axils instead of flowers are occasional.

928. *L. thyrsiflora* L. Tufted Loosestrife.*Naumburgia thyrsiflora* (L.) Duby.

Swamps; frequent. Mid-June–July.

SAMOLUS L. WATER PIMPERNEL. BROOK-WEED.929. *S. Valerandi Americanus* Gray.*S. floribundus* HBK.

In springy places. Mid-June–Mid-July.

In the marsh about the Salt Spring; Fisher Station; the Outlet; Plaster Creek. Abundant at these stations.

STEIRONEMA Raf.930. *S. ciliatum* Raf.

Frequent in moist thickets. July–Aug.

931. **S. lanceolatum** Gray.

Edges of marshes and in wet places; frequent. July-Aug.

932. **S. longifolium** Gray.

S. quadriflorum (Sims) Hitch.

In bogs and springy places; common. July.

TRIENTALIS L. CHICKWEED WINTERGREEN.933. **T. Americana** Pursh. Star-flower.

Frequent in deep moist woods. May.

OLEACEAE. OLIVE FAMILY.**FRAXINUS L. ASH.**934. **F. Americana** L. White Ash.

Common in rich upland woods. Mid-May.

935. **F. Pennsylvanica** Marsh. (*F. pubescens* Lam. Red Ash.)

Low woods; well distributed, but not abundant. Mid-May.

936. **F. quadrangulata** Michx. Blue Ash.

Reported as occasional along the bluffs of Grand River by several lumbermen who were interested in timber in "early times."

No herbarium specimen.

937. **F. sambucifolia** Lam. Black Ash.

F. nigra Marsh.

Swamps; common. Mid-May.

938. **F. viridis** Michx. f. Green Ash.

F. lanceolata Borek.

A small tree on alluvial soil; occasional. Mid-May.

Reed's Lake; along Grand River and its tributaries.

SYRINGA L.939. **S. vulgaris** L. Lilac.

Persistent about pioneer dwellings and waysides. May.

GENTIANACEAE. GENTIAN FAMILY.**BARTONIA** Muhl.940. **B. tenella** Willd.

B. Virginica (L.) B.S.P.

In sphagnum; rare. Aug.

Mill Creek woods (O.H.), 1897; Carmody Lake (Miss Alice Kelly), 1900.

FRASERA Walt. AMERICAN COLUMBO.

941. **F. Carolinensis** Walt.

Frequent in oak openings; well distributed. Last of June–July.
Scarce in the State.

GENTIANA L. GENTIAN.

942. **G. alba** Muhl.

Moist shaded hillsides in John Ball Park, City; rare. Sept.

943. **G. Andrewsii** Griseb. Closed Gentian.

Moist soil; frequent. Sept.

Forms with white corollas are found at the City Settling Basin (S.O.L.).

944. **G. crinita** Froel. Fringed Gentian.

Wet ground; less frequent than *G. serrata*. Sept.

945. **G. quinqueflora occidentalis** Gray.

Wet soil; rare. Sept.

In and about John Ball Park, City.

946. **G. serrata** Gunner. Smaller Fringed Gentian.

G. detonsa Rottb.

In springy or marshy ground; frequent. Sept.

MENYANTHES L. BUCKBEAN.

947. **M. trifoliata** L.

Sphagnous bogs; frequent. May.

APOCYNACEAE. DOGBANE FAMILY.

APOCYNUM L. DOGBANE. INDIAN HEMP.

948. **A. androsaemifolium** L. Spreading Dogbane.

Fields and thickets; common. June–July.

949. **A. cannabinum** L. Indian Hemp.

In wet soil; common and variable. July–Aug.

950. *A. hypericifolium* Ait.

Especially frequent on sandy lake borders. July-Aug.

Silver Lake (H. W. Hlyser); Little Bostwick Lake; Crooked Lake; Campau Lake; West Omens Lake.

VINCA L.

951. *V. minor* L. Periwinkle. Myrtle.

Escaped in the vicinity of cemeteries and dwellings, spreading by roots. May.

ASCLEPIADACEAE. MILKWEED FAMILY.

ACERATES Ell. GREEN MILKWEED.

952. *A. viridiflora* Ell.

In dry sandy soil; frequent. July.

Broad leaved forms and narrow leaved forms grow together; the latter have been mistaken for *A. longifolia*, which has only been found on the shores of the Great Lakes.

ASCLEPIAS L. MILKWEED. SILKWEED.

953. *A. incarnata* L. Swamp Milkweed.

Common in low ground. July-Aug.

954. *A. obtusifolia* Michx.

In dry sandy soil. June-July.

Only a few plants at any station, but well distributed. Scarce in the State.

955. *A. phytolaccoides* Pursh. Poke Milkweed.

A. exaltata (L.) Muhl.

In moist woods. June.

Plants scattered, but well distributed.

956. *A. purpurascens* L. Purple Milkweed.

Light soil of woods and thickets; infrequent. Mid-June-July. Roadside Sec. 31, Vergennes; along Burton Ave.; Mill Creek woods; bluffs of Hogadone Creek; Soldier's Home woods (O.H.); Quimby's Lumber Yard, City (S.O.L.); Market Island, City (M. & C.).

957. **A. Syriaca** L. (*A. Cornuti Decaisne*. Common Milkweed.)
Fields and waste places; everywhere. Last of June–Aug.
958. **A. tuberosa** L. Butterfly-weed. Pleurisy-root.
Light soil; common. July–Aug.
Corollas vary from red to pale yellow.
959. **A. verticillata** L.
In dry fields and oak openings; occasional. Last of June–July.
Corner of Burton Ave. and Kalamazoo Ave.; south of the cemeteries, Hall St., City; woods on Peach Ave.; near Button Lake and Lamberton Lake regions; field at the corner of Wealthy Ave. and Fuller St., City.

CONVOLVULACEAE. CONVULVULUS FAMILY.**CONVOLVULUS L. BINDWEED.**

960. **C. ARVENSIS** L. Bindweed.
Waysides and untilled fields; spreading. Summer.
A troublesome weed and very difficult to exterminate.
961. **C. sepium** L. Hedge Bindweed.
Moist alluvial soil; common. Summer.
Forming tangles over shrubs in thickets.
962. **C. sepium Americanus** Sims.
Found growing with the preceding; common. Summer.
963. **C. spithameus** L.
Barren soil. Summer.
Well distributed and plentiful. Local in the State.

IPOMOEA L. MORNING-GLORY.

964. **I. pandurata** Meyer. Wild Potato-vine. Man-of-the-Earth.
On the bank of Grand River at Wallen's Tannery, City. Aug., 1895 (O.H.). Rare.
- I. purpurea** Roth. Morning-glory.
In springs up on dumping-ground and maintains itself by self-sown seeds for a few years. Summer.

CUSCUTACEAE. DODDER FAMILY.**CUSCUTA L. DODDER.****965. C. Gronovii Willd.**

On the edges of marshes; common. Aug.

It forms masses of tangled, orange, thready vines. Parasitic. Its seed is said to germinate fully a month later than other seeds, so that the plants about it may have a good start, before it begins preying upon them.

POLEMONIACEAE. PHLOX FAMILY.**PHLOX L.****966. P. divaricata L.**

Rich woods and copses; common. May-Mid-June.

Occasionally with white corollas.

967. P. pilosa L.

Frequent on dry sandy soil of oak openings. June.

968. P. subulata L. Ground or Moss Pink.

Dry banks and hillsides, especially along railroad cuts. May. Frequent in and about the City. Corollas rarely white. Common in cultivation.

HYDROPHYLLACEAE. WATERLEAF FAMILY.**HYDROPHYLLUM L. WATERLEAF.****969. H. appendiculatum Michx.**

Moist hillsides and rich woods; frequent. June.

970. H. Canadense L.

Frequent in moist rich woods. Mid-June-Mid-July.

971. H. Virginicum L.

Frequent in rich moist woods. Last of May-June.

BORAGINACEAE. BORAGE FAMILY.**CYNOGLOSSUM L. HOUND'S-TONGUE.****972. C. OFFICINALE L. Common Hound's-Tongue.**

Waysides and waste places; frequent. Summer.

ECHINOSPERMUM Swartz. STICKSEED.*Lappula* Moench.

973. **E. LAPPULA** Lehm.
Roadsides and waste places; common. Summer.
974. **E. Virginicum** Lehm. Beggar's Lice.
Frequent in low woods. Summer.

ECHIUM L. VIPER'S BUGLOSS.

975. **E. VULGARE** L. Blue-weed.
On dumping-ground near the Eagle Plaster Mills; scarce. Mid-June-July.

LITHOSPERMUM L. GROMWELL. PUCCOON.

976. **L. ARVENSE** L. Wheat-Thief. Red-root. Corn Gromwell.
Common in waste places. Summer.
977. **L. canescens** Lehm. Puccoon of the Indians.
Common in sandy soil. May.
978. **L. hirtum** Lehm.
L. Gmelini (Michx.) Hitch.
Sandy fields and oak openings; frequent. Mid-May-July.
979. **L. latifolium** Michx.
Frequent on the edges of woods. Mid-May-June.

MERTENSIA Roth. LUNGWORT.

980. **M. Virginica** DC. Virginian Cowslip. Lungwort. Blue Bells.
Rich alluvial soil; scarce. May.
Scattered along Plaster Creek from Kalamazoo Ave. to Grand River (R. E. Matteson); occasional along Grand River; Wm. Cook's woods, Sec. 36, Byron (S.).

MYOSOTIS L. SCORPION-GRASS. FORGET-ME-NOT.**M. PALUSTRIS** L.

- Escaped from gardens. Summer.
East St. between Wealthy Ave. and Sherman St., City (R. E. Matteson).

SYMPHYTUM L. COMFREY.

981. **S. OFFICINALE L.** Common Comfrey.

Escaped from gardens. June-July.

Barn premises of Riverside Farm, Ada; roadside along the west line of Sec. 22, Wright; near the Lower Swing Bridge.

VERBENACEAE. Vervain Family.**LIPPIA L.**

982. **L. lanceolata Michx.** Fog-fruit.

Alluvial soil; infrequent. July-Aug.

Along Grand River, south of the Eagle Plaster Mills (O.H.); Grandville; Plainfield Village; Reed's Lake (M.&C.). Rare in the State.

VERBENA L. Vervain.

983. **V. bracteosa Michx.**

In untilled soil in and about the City; well distributed, but nowhere abundant. Summer.

984. **V. hastata L.** Blue Vervain.

Common in low ground. July-Sept.

An intermediate form, a hybrid between this and *V. urticaefolia*, is found; the spikes are interrupted as in the latter; the flowers are pink or lavender.

985. **V. stricta Vent.**

Abundant in dumping-ground along Silver Creek, west of Jefferson Ave., City (M.&C.), 1896. July-Aug.

This is the only station mentioned in the State.

986. **V. urticaefolia L.** White Vervain.

Common in low ground. July-Sept.

LABIATAE. Mint Family.**BLEPHILIA Raf.**

987. **B. ciliata Raf.**

Frequent in light sandy soil. June.

Well distributed and frequent in the eastern part of this district. Scarce in the State.

988. **B. hirsuta** Benth.

Low woods and along streams; common. July.

It reaches its northern limits in the Grand River Valley.

CALAIMNTHA Moench. CALAMINT.

Clinopodium L.

989. **C. Clinopodium** Benth. Basil.

C. vulgare L.

In dry fields and thickets; frequent. July.

COLLINSONIA L. HORSE-BALM.990. **C. Canadensis** L. Stone-root. Rich-weed.

In rich woods. Aug.

Mr. Gillons' woods, Sec. 25, Byron; also along the highway between Secs. 30 and 31, Byron.

HEDEOMA Pers. PENNYROYAL.991. **H. pulegioides** Pers. American Pennyroyal.

Sandy fields; local. Aug.

Along Carlton Creek; Berger Creek, near Hogadone Road; Burton Ave. and Buchanan St., South Grand Rapids(O.H.).

HYSSOPUS L. HYSSOP.992. **H. OFFICINALIS** L.

Escaped from cultivation; rare. Summer.

In the northern part of Paris (A.J.Pieters), 1897.

LEONURUS L. MOTHERWORT.993. **L. CARDIACA** L. Common Motherwort.

Common in waste ground. July-Sept.

LOPHANTHUS Benth. GIANT HYSSOP.

Agastache Clayt.

994. **L. nepetoides** Benth.

Frequent in shaded alluvial soil. Aug.

995. **L. scrophulariaefolius** Benth.

In springy places; local. Aug.

Along the D. G. H. & M. Ry. about two miles east of Ada Village; Page Creek.

LYCOPUS L. WATER HOREHOUND.

996. *L. rubellus* Moench.

Low ground; frequent. July–Sept.

997. *L. sinuatus* Ell.

L. Americanus Muhl.

In marshes; common. July–Sept.

998. *L. Virginicus* L. Bugle-weed.

Common in moist soil. Mid-July–Sept.

MARRUBIUM L. HOREHOUND.

999. *M. vulgare* L. Common Horehound.

Escaped from cultivation; frequent. Summer.

MENTHA L. MINT.

1000. *M. Canadensis* L. Wild Mint.

Meadows and low ground; common. Last of July–Sept.

1001. *M. piperita* L. Peppermint.

Common in wet ground along creeks. Cultivated at present in the southern part of Byron for oil. Aug.–Sept.

1002. *M. rotundifolia* (L.) Huds.

Abundant along the Alpine Gravel Road, opposite the Farm of Wm. C. Dowling, Sec. 13, Alpine, where it has maintained itself for over 33 years. This is the only station known in the State. Its uses are those of peppermint and spearmint, and it has about the same kind of oil.

1003. *M. viridis* L. Spearmint.

M. spicata L.

Roadsides, escaped from cultivation; frequent. Aug.–Sept.

MONARDA L. HORSE-MINT.

1004. *M. didyma* L. Bee-Balm. Oswego Tea.

July 3, 1893, a few plants were taken from a small patch, in

moist shaded ground, along the highway between Secs. 2 and 3, Byron (F.).

1005. **M. fistulosa** L. Wild Bergamot.

Light soil, edges of fields, and thickets; common. July-Aug.

1006. **M. punctata** L. Horse-Mint.

In dry, sterile soil, especially hills and bluffs; frequent. Aug.
Pine Hill; sand bluffs along Grand River; Rouge River; Hogadone Creek; Crooked Lake; about the Lakes in central Canon; Vergennes.

NEPETA L. CAT-MINT.

1007. **N. CATARIA** L. Catnip.

Common in waste places near dwellings. July-Sept.

1008. **N. GLECHOMA** Benth. Ground Ivy. Gill-over-the-Ground.

Glechoma hederacea L.

Escaped from cultivation; occasional. May-Aug.

PHYSOSTEGIA Benth. FALSE DRAGON-HEAD.

1009. **P. Virginiana** Benth.

In wet ground; abundant and local. Aug.

On both banks of Grand River, near the Lower Swing Bridge (B.E.L.). Forms with white corollas grow with the others (O.H.).

PRUNELLA L. SELF-HEAL.

1010. **P. vulgaris** L. Common Self-heal or Heal-all.

Common in fields. July-Aug.

PYCNANTHEMUM Michx. MOUNTAIN MINT. BASIL.

Koellia Moench.

1011. **P. lanceolatum** Pursh.

K. Virginiana (L.) MacM.

Common in low ground. Aug.-Sept.

SALVIA L. SAGE.

S. azurea grandiflora Benth.

S. Pitcheri Torr.

There are two clumps on Godfrey Ave., City, near the C. & W.

M. Ry. (M.&C.). July-Aug.

Probably introduced from the South-West.

SCUTELLARIA L. SKULLCAP.

1012. **S. galericulata** L.

Wet soil; common. July-Aug.

1013. **S. lateriflora** L. Mad-dog Skullcap.

Common in low ground. July-Aug.

STACHYS L. HEDGE-NETTLE.

1014. **S. aspera** Michx.

In wet shaded ground; frequent. July-Aug.

1015. **S. aspera glabra** Gray.

S. tenuifolia Willd.

Found growing with the preceding; occasional. July-Aug.

1016. **S. hyssopifolia** Michx.

In moist ground. July.

N. shore of Crooked Lake; Bostwick Lake; abundant about Little Bostwick Lake. Rare in the State.

1017. **S. palustris** L.

Common in low shaded ground. July-Aug.

TEUCRIUM L. GERMANDER.

1018. **T. Canadense** L. American Germander. Wood Sage.

Low woods and thickets; frequent. July-Aug.

SOLANACEAE. NIGHTSHADE FAMILY.

DATURA L. JAMESTOWN-WEED. THORN-APPLE.

1019. **D. STRAMONIUM** L. Common Stramonium, or Thorn-Apple.

Untilled ground; not abundant. July-Sept.

Along the highway between Secs. 7 and 14, Walker(RoyTucker); roadside between Secs. 1 and 12, Alpine.

1020. **D. Tatula** L. Purple Thorn-Apple.

A coarse weed in rich soil; common. July-Sept.

The seeds of both species are poisonous.

LYCIUM L. MATRIMONY-VINE.

1021. *L. VULGARE* Dunal.

Occasionally escaped from gardens. Summer.

Introduced by the pioneer settlers.

PHYSALIS L. GROUND CHERRY.

1022. *P. heterophylla* Nees. (P. *Virginiana* Mill.)

In light soil; our most common species. Summer.

1023. *P. heterophylla ambigua* (Gray) Rydberg.

(P. *Virginiana ambigua* Gray.)

Sandy soil. Summer.

Frequent in fields south of Burton Ave.

1024. *P. heterophylla nyctaginea* (Dunal) Rydberg.

In dry soil. Summer.

Corner of Jefferson Ave. and Burton Ave., City (O.H.).

1025. *P. Virginiana* Mill.

Dry sandy soil; common. July-Aug.

This species has been called *P. lanceolata* Michx. which is not known to occur in Michigan.

1026. *P. Virginiana vulgaris* Rydberg.

In sterile soil about Crooked Lake (O.H.). Summer.

SOLANUM L. NIGHTSHADE.

1027. *S. Carolinense* L. Horse-Nettle.

Dry soil. July-Sept.

Along the G. R. & I. Ry., south of Fisher Station; edge of a little marsh on East St., near Plaster Creek (M.&C.); bank of Grand River at Wallin's Tannery, City; Soft Water Lake. Introduced from the South.

1028. *S. DULCAMARA* L. Bittersweet.

Roadsides, thickets, and swamps; common. Summer.

Base of stem woody, a climbing or straggling plant, 3-10 feet high. White flowered forms grow with the purple, with leaves and stems very pubescent.

1029. *S. nigrum* L. Common Nightshade.

Moist soil; common. July–Sept.

1080. *S. rostratum* Dunal.

Waste places. July–Aug.

Soft Water Lake (O.H.); G. R. & I. Ry., near Fifth Ave., City (M.&C.); in Plainfield Village it has persisted since 1896 (H.W. Hyser). Introduced from the West, and is the original food of the Colorado potato-beetle.

SCROPHULARIACEAE. FIGWORT FAMILY.

CASTILLEJA Mutis. PAINTED-CUP.

1031. *C. coccinea* Spreng. Scarlet Painted-Cup.

In moist ground; formerly frequent, becoming scarce. May.

At Lamberton Lake the floral bracts vary from scarlet to yellow (O.H.).

CHELONE L. SNAKE-HEAD. TURTLE-HEAD.

1032. *C. glabra* L.

Low ground and banks of streams; frequent. Aug.–Sept.

COLLINSIA Nutt.

1033. *C. verna* Nutt.

Moist woods; abundant and local. May.

Ross Station (S); along Grand River at the following stations: Ada Village (Miss Birdie Bennett); Annadale Farm, Sec. 5, Wyoming (Miss Annah A. Rindge); south of the Lower Swing Bridge (E.G. Matter); one mile above Plainfield Village (Mrs. Mary Orth). A beautiful spring annual with blue and white party-colored flowers occurring in rich moist woodlands.

GERARDIA L.

1034. *G. flava* L. Downy False Foxglove.

Dasystoma flava (L.) Wood.

Frequent on hillsides and banks in open, dry woods. July–Aug.

1035. *G. Pedicularia* L.*Dasystoma Pedicularia* (L.) Benth.

Oak openings; frequent. Last of July–Aug.

1036. *G. purpurea* L. Purple Gerardia.

Moist sandy ground. Aug.–Sept.

Crooked Lake. It is found on the shores of the Great Lakes, but rare in the interior of the State.

1037. *G. purpurea paupercula* Gray.

Moist sandy soil of lake margins and river banks; frequent. Aug.–Sept.

1038. *G. quercifolia* Pursh. Smooth False Foxglove.*Dasystoma Virginica* (L.) Britton.

Frequent in oak openings. July–Aug.

ILYSANTHES Raf.

1039. *I. riparia* Raf. False Pimpernel.*I. gratioloides* (L.) Benth.

In wet ground. July–Aug.

Pine Island Lake; Bostwick Lake.

LINARIA Juss. TOAD-FLAX.

1040. *L. Canadensis* Dumont.Dry sterile soil in shaded places; unfrequent. Mid-May–June
Shores and hillsides in the Lamberton Lake and Crooked Lake
regions; Little Bostwick Lake; bluffs along the Upper River
Road. Abundant at these stations.1041. *L. vulgaris* Mill. Ramsted. Butter and Eggs.*L. Linaria* (L.) Karst.

Fields and waysides; common. Mid-June–Sept.

MELAMPYRUM L. COW-WHEAT.

1042. *M. Americanum* Michx.*M. lineare* Lam.

In dry woods and thickets; frequent. June–July.

MIMULUS L. MONKEY-FLOWER.1043. **M. ringens** L.

In marshes and along streams; common. July-Aug.

M. Jamesii Torr. may be looked for in spring brooklets.

PEDICULARIS L. LOUSEWORT.1044. **P. Canadensis** L. Common Lousewort. Wood Betony.

Common in open, moist woodlands. May.

1045. **P. lanceolata** Michx.

Springy bogs and marshes; frequent. Mid-Aug.-Mid-Sept.

PENTSTEMON Soland. BEARD-TONGUE.1046. **P. laevigatus** Soland.

P. Pentstemon (L.) Britton.

A few plants were found in a field south of Reed's Lake, July, 1894 (Mrs. Hattie M. Bailey Pieters).

1047. **P. laevigatus Digitalis** Gray.

P. Digitalis (Sweet) Nutt.

In a wheatfield on the bank of Lamberton Creek, west of the Plainfield Gravel Road, July, 1899 (R.N. Wolcott). Probably introduced in clover seed.

1048. **P. pubescens** Soland.

P. hirsutus (L.) Willd.

Common in light soil. June-July.

SCROPHULARIA L. FIGWORT.1049. **S. leporella** Bicknell.

In rich soil; frequent. June-July.

1050. **S. nodosa Marylandica** Gray.

In woods and thickets; frequent. July-Aug.

SYNTHYRIS Benth.

Wulfenia Jacq.

1051. **S. Houghtoniana** Benth.

Oak openings; occasional. Last of May-June.

Lamberton Lake region; Knapp Road between Coit Ave. and Plainfield Ave. (S.O.L.); Pine Hill; Plaster Creek at Madison Ave.; Belmont. Its range in the State is north-west from Manchester in Washtenaw County to Barry County, thence to Ionia and Kent Counties.

VERBASCUM L. MULLEIN.

1052. **V. BLATTARIA L.** Moth Mullein.

Untilled fields and roadsides; occasional. July–Aug.

Flowers yellow or white. These colors are constant and generally all in a patch have the same color. Yellow flowered forms are the more frequent.

1053. **V. THAPSUS L.** Common Mullein.

Roadsides and fields; common. July–Sept.

VERONICA L. SPEEDWELL.

1054. **V. Americana** Schwein. American Brooklime.

In brooklets and moist places; common. June–July.

1055. **V. Anagallis L.** Water Speedwell.

V. Anagallis-aquatica L.

In springs and brooks; frequent. Aug.

1056. **V. ARVENSIS L.** Corn Speedwell.

Common in waste or cultivated ground. May–June.

1057. **V. LATIFOLIA L.**

Escaped from cultivation and plentiful at the corner of Peach Ave. and the Alpine Gravel Road (S.O.L.). June–July.

1058. **V. peregrina L.** Neckweed. Purslane Speedwell.

Common in moist soil. May–June.

1059. **V. serpyllifolia L.** Thyme-leaved Speedwell.

Lawns and fields; common. Summer.

Flowers white or blue. *V. scutellata L.* may be looked for in swamps.

1060. **V. Virginica L.** Culver's-root. Culver's Physic.

Leptandra Virginica (L.) Nutt.

Common in open shaded places. July–Aug.

LENTIBULARIACEAE. BLADDERWORT FAMILY.**UTRICULARIA L. BLADDERWORT.****1061. *U. cornuta* Michx.**

In wet sand; occasional. Mid-June-July.

S. shore of Lamberton Lake (S.); Button Lake (Lotan Read); Saddle-Bag Swamp (O.H.); Little Bostwick Lake; Clear Lake; Mud Lake, Plainfield.

1062. *U. gibba* L.

In shallow water on the borders of lakes; local. July-Aug.

S. E. shore of Button Lake (M.& C.); Mud Lake, Plainfield. Rare in the State.

1063. *U. intermedia* Hayne.

In shallow water; scarce. June-Mid-Sept.

Shore of Lamberton Lake, 1839 (S.); Button Lake, 1897 (M.&C.); arm of Lamberton Lake marsh, 1899 (S.O.L.); Mud Lake, Plainfield; edges of the pool in Orchid Swamp, 1895 (O.H.). Infrequent in the State

1064. *U. minor* L. Smaller Bladderwort.

In shallow water; rare. June-Mid-July.

S. shore of Lamberton Lake and the arm of Lamberton Lake marsh, where it it grows with *U. intermedia* (S.O.L.). Rare in the State.

1065. *U. resupinata* B. D. Greene.

Abundant in sand, in shallow water on the margin of Little Bostwick Lake. July-Aug.

1066. *U. vulgaris* L. Greater Bladderwort.

Ponds and slow streams; common. July-Aug.

OROBANCHACEAE. BROOM-RAPE FAMILY.**APHYLLON Mitch. NAKED BROOM-RAPE.**

Thalesia Raf.

1067. *A. uniflorum* Gray. One-flowered Cancer-root.

In oak openings; scarce. Mid-May.

Diamond St. woods, City (S.O.L.); Plaster Creek bluffs (M. & C.); bluffs along the Upper River Road (Mrs. Mary B. Fallas); woods west of the D.G.H. & M. Ry. Junction (Charles McCarty).

CONOPHOLIS Wallr. SQUAW-ROOT. CANCER-ROOT.

1068. **C. Americana** Wallr.

Rich moist woodlands; occasional. May-June.

Woods south of Reed's Lake; Mill Creek woods; Burton Ave. Swamp; woods of V. Harrington, Sec. 2, Walker; East St. Pinery; woods along the Thornapple River; woods of S. B. Smith, Sec. 14, Grand Rapids; woods of Mrs. Maria Williams, Sec. 4, Paris; north addition to John Ball Park, City.

EPIPHEGUS Nutt. BEECH-DROPS. CANCER-ROOT.

Leptamnium Raf.

1069. **E. Virginiana** Bart.

Frequent in beech woods. Aug.-Sept.

PHRYMACEÆ LOPSEED FAMILY.

PHRYMA L. LOPSEED.

1070. **P. Leptostachya** L.

In moist woods and thickets; frequent. July-Aug.

PLANTAGINACEÆ PLANTAIN FAMILY.

PLANTAGO L. PLANTAIN. RIBWORT.

1071. **P. aristata** Michx.

Dry gravelly soil; local. Summer.

East of Madison Ave., near the D. G. R. & W. Ry. (M. & C.); near the Soldiers' Home, on east side of the Comstock Riverside Addition plat. Introduced from the West.

1072. **P. LANCEOLATA** L. Ribgrass. English Plantain.

Fields and waysides; common. Summer.

1073. **P. major** L. Common Plantain.

Waysides and about dwellings. July-Sept.

Less common than *P. Rugelii*.

1074. **P. Rugellii** Decaisne.

Found growing with *P. major* and often mistaken for it. July–Sept.

RUBIACEAE. MADDER FAMILY.**CEPHALANTHUS L. BUTTON-BUSH.**1075. **C. occidentalis** L.

A low shrub; common about swamps. July–Aug.

GALIUM L. BEDSTRAW. CLEAVERS.1076. **G. Aparine** L. Cleavers. Goose-Grass.

Dry woods; common. May.

1077. **G. asprellum** Michx. Rough Bedstraw.

Swamps and boggy ground; common. July–Oct.

1078. **G. boreale** L. Northern Bedstraw.

Common. June–July.

1079. **G. circaezans** Michx. Wild Liquorice.

In dry woods; frequent. July–Aug.

1080. **G. Claytoni** Michx.

In moist soil, especially about lake margins; frequent. Mid-June–July.

1081. **G. lanceolatum** Torr. Wild Liquorice.

Frequent in rich woods. June–July.

1082. **G. pilosum** Ait.

Dry banks; frequent. July.

1083. **G. tinctorium** L. (*G. trifidum latifolium* Torr.)

Frequent in low woods. June–July.

1084. **G. trifidum** L. Small Bedstraw.

Bogs and marshes; common. June–July.

The variety *pusillum* Gray is included in the species.

1085. **G. triflorum** Michx. Sweet-scented Bedstraw.

Woods; frequent. July.

Emits a pleasant odor in drying.

HOUSTONIA L.

1086. *H. longifolia* Gaertn.

Dry soil; occasional. June.

Bluffs of Plaster Creek; bluffs of Thornapple River; Vergennes;
Plainfield; Cannon.

MITCHELLA L. PARTRIDGE-BERRY.

1087. *M. repens* L.

Prefers beech, maple, or woods with conifers; common. Mid-
June-July.

CAPRIFOLIACEAE. HONEYSUCKLE FAMILY.

DIERVILLA Moench. BUSH HONEYSUCKLE.

1088. *D. trifida* Moench.

D. Diervilla (L.) MacM.

Dry woods or banks; frequent. Last of May-June.

LINNAEA L. TWIN-FLOWER.

1089. *L. borealis* L.

Plentiful under tamaracks on the east side of Mud Lake,
Wright. June.

LONICERA L. HONEYSUCKLE. WOODBINE.

1090. *L. ciliata* Muhl. Fly-Honeysuckle.

Frequent in moist woods. May.

1091. *L. glauca* Hill.

L. dioica L.

Usually grows in wet ground; occasional. Mid-May-Mid-June.
L. Douglasii Hook. (*L. glaucescens* Rydberg), formerly in-
cluded in *L. glauca*, is not so tall; the leaves are somewhat
hairy beneath. It may be looked for in thickets and on hillsides
in this locality.

1092. *L. oblongifolia* Hook. Swamp Fly-Honeysuckle.

Cold swamps. June.

Cedar Swamp (Wadsworth Part); plentiful about Mud Lake,
Wright. (Miss Jessie Brown).

SAMBUCUS L. ELDER.

1093. **S. Canadensis** L. Common Elder.

Fields and roadsides; common. July.

"It follows settlements." The berries with red stems are preferred to those with green stems for culinary purposes.

1094. **S. racemosa** L. Red-berried Elder.

S. pubens Michx.

Common along stump fences on pine land, frequent in moist woods. May.

SYMPHORICARPOS JUSS. SNOWBERRY.

The species mentioned under this genus are indigenous in the northern part of the State. They were common in cultivation about the homes of the pioneer settlers, and are not infrequent now about old dwellings and roadsides.

1095. **S. occidentalis** Hook. Wolfberry.

Flowers in July, the fruit ripens and persists through autumn.

1096. **S. racemosus** Michx. Snowberry.

Flowers in July, fruit ripe in autumn.

S. pauciflorus Robbins is indigenous in Ionia Co., and may be looked for here on hillsides under pines.

1097. **S. vulgaris** Michx. Indian Currant. Coral-berry.

S. Symphoricarpos (L.) MacM.

Flowers in July, the fruit persists after the leaves have fallen.

TRIOSTEUM L. HORSE-GENTIAN. FEVER-WORT.

1098. **T. perfoliatum** L.

Open woods and copses. Mid-May-Mid-June.

Widely scattered, but well distributed.

VIBURNUM L. ARROW-WOOD. LAURESTINUS.

1199. **V. acerifolium** L. Arrow-wood. Dockmackie.

Dry wooded banks and hillsides; frequent. Mid-May-Mid-June.

1100. **V. cassinoides** L. Withe-rod.

Sphagnous swamps; infrequent. First of June.

Big Marsh; Mud Lake, Plainfield; Mud Lake, Walker; Sec. 1, Tallmadge.

1101. **V. Lentago** L. Sweet Viburnum. Sheep-berry.
Low woods and marshes; common. Mid-May-June.

1102. **V. Opulus** L. Cranberry-tree.
Cold swamps; occasional. May.
Well distributed, but scattered.

1103. **V. pubescens** Pursh. Downy Arrow-Wood.
Banks and hillsides; common. Mid-May-Mid-June.

VALERIANACEAE. VALERIAN FAMILY.

VALERIANA L. VALERIAN.

1104. **V. sylvatica** Banks.
Sphagnous swamps; frequent. Mid-May-Mid-June.

VALERIANELLA Poll. CORN SALAD. LAMB-LETTUCE.

1105. **V. chenopodifolia** DC.
There is a small patch just north of Plaster Creek, between the M.C.Ry. and the G.R. & I. Ry. (John Van Splunter), June, 1897.

DIPSACEAE. TEASEL FAMILY.

DIPSACUS L. TEASEL.

1106. **D. sylvestris** Mill. Wild Teasel.
Untilled ground; rare. July-Aug.
This species occurs on the Farm of George Slater along the highway on the north line of Sec. 15, Paris. A few plants have been growing at this station for some years (Robert Slater).

CUCURBITACEAE. GOURD FAMILY.

ECHINOCYSTIS Torr. & Gray. WILD BALSAM-APPLE. *Micrampelis* Raf.

1107. **E. lobata** Torr. & Gray.
Alluvial soil; common. July-Aug.

CAMPANULACEAE. CAMPANULA FAMILY.**CAMPANULA L. BELLFLOWER.**

1108. **C. Americana** L. Tall Bellflower.
Frequent in moist woodlands. July-Aug.
1109. **C. aparinoides** Pursh. Marsh Bellflower.
Grassy marshes and bogs; common. July-Aug.
1110. **C. RAPUNCULOIDES** L.
Well established at Wallin's Tannery, City(O.H.). July-Aug.
1111. **C. rotundifolia** L. Harebell.
Common on shaded banks and hillsides. June-Sept.

LOBELIA L.

1112. **L. cardinalis** L. Cardinal-flower.
Common in wet soil. Aug.
Near Nason's Saw-Mill on Grand River, plants with almost pure white corollas grew with the red (S.O.L.).
1113. **L. inflata** L. Indian Tobacco.
In fields and thickets; infrequent. July-Sept.
West Bridge St. Ferry; Sec. 19, Vergennes; S. E. shore of Reed's Lake; Byron Center; Sec. 29, Caledonia.
1114. **L. Kalmii** L.
Wet soil, edges of lakes, and marshes; frequent. Mid-July-Mid-Sept.
1115. **L. spicata** Lam.
In dry, mostly sandy soil, or in meadows; frequent. July.
1116. **L. syphilitica** L. Great Lobelia.
Wet ground; abundant. Mid-July-Mid-Sept.
The color of the corolla varies from deep blue to white.

SPECULARIA Heist. VENUS' LOOKING-GLASS.*Legouzia* Durand.

1117. **S. perfoliata** DC.
Dry gravelly soil; infrequent. June-July.

D. G. H. & M. Ry., east of the City (Miss Broome); John Ball Park, City, (Mrs. Mary B. Fallass); Lamberton Lake region; Sec. 29, Vergennes; hills along the G. R. & I. Ry., just west of the D. G. H. & M. Ry. Junction.

COMPOSITAE. COMPOSITE FAMILY.

ACHILLEA L. YARROW.

1118. *A. Millefolium* L. Common Yarrow or Milfoil.
Fields and roadsides; common. July–Oct.
Forms with rose-colored rays are occasional.

AMBROSIA L. RAGWEED.

1119. *A. artemisiaefolia* L. Roman Wormwood. Ragweed.
Common along highways. July–Oct.
Introduced from the West.
1120. *A. trifida* L. Great Ragweed.
Common in alluvial soil. July–Aug.
1121. *A. trifida integrifolia* Torr. & Gray.
Frequent with the type. July–Aug.

ANAPHALIS DC. EVERLASTING.

1122. *A. margaritacea* Benth. & Hook. Pearly Everlasting.
In fields; rare. Aug.–Sept.
South Grand Rapids (B.E.L.); North College Ave. and Sweet St., City, (S.O.L.); along the road running north from the D. G. H. & M. Ry. Bridge, near Saddle-Bag Swamp (O.H.).

ANTENNARIA Gaertn. EVERLASTING.

A. plantaginea R. Br. is the earlier and correct name for *A. plantaginifolia* Hook. It has recently been divided into several species; the following from this locality have been identified by Mr. M. L. Fernald:

1123. *A. Brainerdii* Fernald.
Clayey ground, near Reed's Lake. May.

1124. *A. fallax* Greene.

Light soil. May.

Woods along the D. G. H. & M. Ry. west of the Junction; hills about Burton Ave. Swamp.

1125. *A. Farwellii* Greene.

In sand or clay. May.

Black Hills; D. G. H. & M. Ry.; near West Bridge St. Ferry; Fourth St.; Plainfield Village.

1126. *A. neodioica* Greene.

Sandy soil. May.

Near West Bridge St. Ferry (Mrs. Mary B. Fallass); Hudsonville; near Reed's Lake.

1127. *A. neodioica attenuata* Fernald.

Collected along West Bridge St., near the Ferry. May.

1128. *A. plantaginea* R. Br.

In sandy or gravelly soil. May.

Along the Grandville Road; near West Bridge St. Ferry; Hudsonville; bluffs about Lamberton Lake; West Leonard St.

1129. *A. plantaginea petiolata* Fernald.

Pine and oak woods along the G. R. & I. Ry., just west of the D. G. H. & M. Ry. Junction. May.

ANTHEMIS L. CHAMOMILE.

1130. *A. arvensis* L. Corn Chamomile.

Abundant in a field along Buchanan St., north of Roe St., South Grand Rapids. Summer.

1131. *A. cotula* L. May-weed. Dog-Fennel.

Along highways and waste places; common. July-Oct.

It followed pioneer settlements, and was very abundant along roadsides and in waste places in this vicinity from 1850 to about 1865 when ragweed became common.

ARCTIUM L. BURDOCK.

1132. *A. lappa* L. Burdock.

Common in waste places. July-Oct.

1138. *A. LAPPAMINUS* Gray.

Common. July–Oct.

ARTEMISIA L. WORMWOOD.

1134. *A. ABSINTHIUM* L. Common Wormwood.

Sparingly escaped from gardens. Aug.

1135. *A. biennis* Willd.

A roadside weed; spreading freely. Sept.

Introduced from the West.

1136. *A. caudata* Michx.

In sandy fields; common. Sept.–Oct.

ASTER L. STARWORT. ASTER.

1137. *A. azureus* Lindl.

In light sandy soil; frequent. Aug.–Sept.

1138. *A. cordifolius* L.

Common in woods and thickets. Sept.–Oct.

1139. *A. cordifolius polycephalus* Porter.

In low ground; frequent. Aug.–Oct.

1140. *A. diffusus* Ait.

A. lateriflorus (L.) Britton.

In dry or moist soil; common and variable. Sept.–Oct.

1141. *A. divaricatus* L. (*A. corymbosus* Ait.)

In thickets. Mid-July–Aug.

South Grand Rapids (F.).

1142. *A. dumosus* L.

In sand; local. Sept.–Oct.

Crooked Lake; Bostwick Lake; Pine Island Lake.

1143. *A. ericoides* L.

Dry sterile soil; infrequent. Sept.–Oct.

North College Ave. and Sweet St., City (S.O.L.); Silver Lake;

Bostwick Lake; Little Bostwick Lake.

1144. **A. junceus** Ait.
Sphagnous swamps; frequent. July–Sept.
Cedar Swamp; Burton Ave. Swamp; Mud Lake, Plainfield; Campau Lake, and elsewhere.
1145. **A. laevis** L.
Common on the edges of oak woods. Mid-Aug.–Oct.
1146. **A. macrophyllus** L.
Common in oak openings. Aug.–Sept.
1147. **A. multiflorus** Ait.
Dry sandy soil; local. Sept.–Oct.
Abundant about Plainfield Village.
1148. **A. Novae-Angliae** L.
Frequent in moist ground. Sept.
1149. **A. paniculatus** Lam.
Common in marshes and along streams. Sept.–Oct.
Exceedingly variable.
1150. **A. puniceus** L.
Common in marshes. Sept.–Oct.
1151. **A. puniceus lucidulus** Gray.
Common in marshes. Sept.–Oct.
1152. **A. sagittifolius** Willd.
Common in dry soil. Aug.–Oct.
1153. **A. salicifolius** Ait.
In moist soil; frequent. Aug.
Pine Island Lake; Lamberton Lake region; Lower Swing Bridge; Campau Lake; Reed's Lake; McCords.
1154. **A. sericeus** Vent.
In sterile soil. Aug.–Sept.
Pine Hill; abundant in the woods of W. M. Snow, S.E. $\frac{1}{4}$ of the N. W. $\frac{1}{4}$ of Sec. 15, Cascade.
1155. **A. Shortii** Hook.
Along the edges of woods in the south addition to John Ball Park, City. Rare. Sept.–Oct.

1156. **A. Tradescanti** L.
 Low ground; frequent. Sept.–Oct.
 Cedar Swamp; Lamberton Lake; Burton Ave. Swamp; Campau Lake; Reed's Lake, and elsewhere.
1157. **A. umbellatus** Mill.
Doellingeria umbellata (Mill.) Nees.
 Common in moist places. Aug.–Sept.
1158. **A. undulatus** L.
 Dry ground; occasional. Sept.–Oct.
 Abundant in the southern part of Cannon; along the Cascade Gravel Road.
1159. **A. vimineus** Lam.
 In low ground; occasional. Sept.–Oct.
 Lamberton Lake region; near Caledonia Village; Burton Ave. Swamp.

BIDENS L. BUR-MARIGOLD.

1160. **B. Beckii** Torr. Water Marigold.
 Abundant in the west end of Reed's Lake. Aug.
1161. **B. cernua** L. Smaller Bur-Marigold.
 Wet places; common. Sept.–Oct.
1162. **B. chrysanthemoides** Michx. Larger Bur-Marigold.
B. laevis (L.) B.S.P.
 Low ground; common. Aug.–Sept.
1163. **B. connata** Muhl. Swamp Beggar-ticks.
 Common in low ground. Aug.–Sept.
1164. **B. connata comosa** Gray.
 In low ground. Aug.–Sept.
1165. **B. discoidea** (Torr. & Gray.) Britton.
(Coreopsis discoidea Torr. & Gray.)
 In wet soil; frequent. July–Oct.
1166. **B. frondosa** L. Common Beggar-ticks. Stick-tight.
 Low ground and waste-places; common. Aug.–Sept.

CHRYSANTHEMUM L. OX-EYE DAISY.

- 1167.
- C. BALSAMITA L. Mint-Geranium. Costmary.**

Escaped to roadsides and persistent near dwellings and old gardens; occasional. July–Sept.

Locally called Rosemary, Sweetmary.

- 1168.
- C. LEUCANTHEMUM L. Ox-eye or White Daisy.**

In pastures, meadows, and waste places; increasing. June–Oct.

It has been established at Reed's Lake for 30 years or more.

CICHORIUM L. SUCCORY OR CHICORY.

- 1169.
- C. INTYBUS L.**

Waysides and waste places; locally abundant. July–Sept.

Scattered along the Cascade Gravel Road; along Market St. and Elsworth Ave., City (S.O.L.); Caledonia Village (Mrs. Mary B. Fallase); Alpine Gravel Road, near Platte's Corners.

CNICUS L. COMMON OR PLUMED THISTLE.

Carduus L.

- 1170.
- C. altissimus discolor Gray.**

C. discolor (Muhl.) Nutt.

Roadsides and meadows; occasional. Aug.–Sept.

- 1171.
- C. ARVENSIS Hoffm. Canada Thistle.**

In fields and waste places; becoming too frequent. July–Sept.

- 1172.
- C. LANCEOLATUS Willd. Common Thistle.**

Roadsides and fields; common. Aug.–Oct.

- 1173.
- C. muticus Pursh. Swamp Thistle.**

Frequent in swamps. Aug–Sept.

COREOPSIS L. TICKSEED.

- 1174.
- C. lanceolata L.**

Dry sandy soil; local. Mid-June–Mid-July.

Bluffs at Plainfield Village; Belmont; Beal's Road and Clyde Park, near Burton Ave. Swamp (M.&C.); Plainfield, near the State Road in Cannon.

1175. **C. trichosperma tenuiloba** Gray.*Bidens trichosperma tenuiloba* (Gray) Britton.

In marshes, often so abundant as to make them one mass of yellow in September.

1176. **C. tripteris** L. Tall Coreopsis.

Light soil in and about oak openings; occasional. Aug.

Vergennes; Cascade; Plainfield; Lamberton Lake region; Caledonia; Cannon.

1177. **C. verticillata** L.

Collected at Grand Rapids several years ago by Prof. C. F. Wheeler. Specimen in the M.A.C. Herbarium—destroyed by fire in 1890.

ECHINACEA Moench. PURPLE CONE-FLOWER.

Brauneria Neck.1178. **E. purpurea** Moench.

The only plant ever found in this district was collected in a field near Butterworth Ave., Aug. 16, 1891, by Mrs. Delia Bailey Cobb. In the herbarium of Mrs. Hattie M. Bailey Pieters. Rare in the State.

ECHINOPS L.

E. SPHAEROCEPHALUS L. Great Globe-thistle.

Waste places; adventive. Aug.—Sept.

Butterworth Ave., near John Ball Park, City, 1896 (O.H.); Park Ave., near the "big ditch," City (Mrs. E. L. Sones); Upper River Road, near the Midland Plaster and Cement Mill; Fish Pond. Only one or two plants at any of these stations. It has been reported from one other locality in the State. A European plant introduced into the United States some years ago as a "bee plant."

ERECHTITES Raf. FIREWEED.

1179. **E. praealta** Raf.

(E. hieracifolia Raf.)

Especially common on new clearings. Aug.—Sept.

ERIGERON L. FLEABANE.

1180. **E. annuus** Pers. Daisy Fleabane. Sweet Scabious.
Fields; common. July-Oct.
1181. **E. bellidifolius** Muhl. Robin's Plantain.
E. pulchellus Michx.
Frequent on moist banks. Mid-May-Mid-June.
1182. **E. Canadensis** L. Horse-weed. Butter-weed.
Leptilon Canadense (L.) Britton.
Fields and waste places; common. Aug.-Oct.
1183. **E. Philadelphicus** L. Common Fleabane.
Common in moist grassy places. Mid-June-July.
1184. **E. strigosus** Muhl. Daisy Fleabane.
E. ramosus (Walt.) B.S.P.
Fields; common. July-Oct.

EUPATORIUM L. THOROUGHWORT.

1185. **E. ageratoides** L. White Snake-root.
Frequent in moist woods. Aug.-Sept.
1186. **E. perfoliatum** L. Thoroughwort. Boneset.
Common in low ground. Aug.-Sept.
1187. **E. purpureum** L. Joe-Pye Weed. Trumpet-Weed.
Low ground; common and variable. Aug.-Sept.

GNAPHALIUM L. CUDWEED.

1188. **G. decurrens** Ives. Everlasting.
Common in untilled fields. Aug.-Sept.
1189. **G. obtusifolium** L. (G. polycephalum Michx.)
In fields and open woodlands; common. Sept.
1190. **G. uliginosum** L. Low Cudweed.
Frequent on the edges of streams, in clayey soil. July-Sept.

GRINDELIA Willd.

- G. squarrosa** Dunal.
Farm of J. E. Phillips, Sec. 19, Paris, where it has maintained

itself for several years; probably introduced from the South-West, through refuse from the Felt-Boot Factory (Allen Phillips).

HELENIUM L. SNEEZE-WEED.

1191. **H. autumnale L.**

Alluvial soil; frequent. Aug.-Sept.

HELIANTHUS L. SUNFLOWER.

H. annuus L. Common Sunflower.

Escaped from cultivation and persistently self-seeding for several years. July-Sept.

1192. **H. decapetalus L.**

Low woods; frequent. Mid-Aug.-Sept.

1193. **H. divaricatus L.**

Dry woods and banks; common. Aug.-Sept.

1194. **H. giganteus L.**

Low ground; common and variable. Aug.-Sept.

1195. **H. occidentalis Riddell.**

In and about oak openings; frequent and well distributed. Aug.-Sept.

1196. **H. petiolaris Nutt.**

Untilled ground. July-Oct.

Escaped from cultivation, and persistently self-seeding since 1893, on East Bridge St., near Ransom St., City; Farm of J. E. Phillips, Sec. 19, Paris; probably introduced through refuse from the Felt-Boot Factory. Native on the western prairies.

1197. **H. strumosus L.**

Woods and shaded ground; common. Mid-Aug.-Sept.

1198. **H. tuberosus L. Jerusalem Artichoke.**

Escaped from cultivation and becoming frequent. Aug.-Sept.

HIERACIUM L. HAWKWEED.

1199. **H. Canadense Michx.**

Common in dry woods and thickets. Mid-July-Sept.

1200. *H. Gronovii* L. Hairy Hawkweed.

Dry soil in John Ball Park, City (O.H.). Rare. July-Aug.

1201. *H. longipilum* Torr. Long-bearded Hawkweed.

In dry sandy soil; scarce. Mid-July-Aug.

Along the road running midway through Sec. 6, Plainfield; Sec. 3, Georgetown; near Fisher Station (R. E. Matteson); woods of W. M. Snow, S. E. $\frac{1}{4}$ of the N. W. $\frac{1}{4}$ of Sec. 15, Cascade.

1202. *H. scabrum* Michx.

Common in dry woods. Mid-July-Sept.

1203. *H. venosum* L. Rattlesnake-weed.

In dry woods and thickets; frequent. June-July.

Forms occur which do not have purple veined root leaves.

INULA L. ELECAMPAINE.

1204. *I. Helenium* L. Elecampane.

Occasional along roadsides where it has escaped from cultivation. July-Aug.

It has maintained itself fifty years or more on the N. W. $\frac{1}{4}$ of Sec. 30, Vergennes.

KRIGIA Schreb. DWARF DANDELION.

Adopogon Neck.

1205. *K. amplexicaulis* Nutt.

A. Virginicum (L.) Kuntze.

Moist hillsides or banks on oak land; frequent. June.

1206. *K. Virginica* Willd.

A. Carolinianum (Walt.) Britton.

Dry sandy soil in open, oak woods; frequent. June.

KUHNIA L.

1207. *K. eupatorioides* L.

Dry soil; locally abundant. Mid-July-Aug.

Plainfield Village; hillsides near the Eagle Plaster Mills; Ada Village; Plaster Creek; Lamberton Lake region; Crooked Lake region. Infrequent in the State.

LACTUCA L. LETTUCE.

1208. **L. Canadensis** L. Wild Lettuce.
Common in rich soil. July–Sept.
1209. **L. hirsuta** Muhl.
Dry soil; scarce. Mid-June–Sept.
Bluffs along Hogadone Road, near Hogadone Creek.
1210. **L. leucophaea** Gray.
L. spicata (Lam.) Hitch.
Common in moist soil. Aug.–Sept.
1211. **L. SCARIOLO** L. Prickly Lettuce.
Waste places; frequent. Mid-July–Aug.
It first appeared in this country on a dumping-ground of an Atlantic seaport. In three years it had reached Michigan, and in eight years, the Pacific coast.

LEPACHYS Raf.*Ratibida* Raf.

1212. **L. pinnata** Torr. & Gray.
Dry soil, especially along streams; occasional. Mid-July–Aug.
Thornapple River; Rouge River; Grand River. Abundant at these stations.

LIATRIS Schreb. BUTTON SNAKEROOT. BLAZING-STAR.*Lacinaria* Hill.

1213. **L. cylindracea** Michx.
Sterile soil; well distributed, but scattered. Aug.
1214. **L. scariosa** Willd. Blazing-Star.
Dry soil; common. Aug.
1215. **L. spicata** Willd.
Marshy ground; frequent. Aug.

ONOPORDON L. Cotton or Scotch Thistle.

1216. **O. ACANTHIUM** L.
Sterile soil of old fields; not abundant. June–Sept.
Collected in the south part of the City in 1872 (Prof. C.F. Wheeler); fields at the corner of Lake Ave. and Packard St.,

City, 1896 (Frank Wurzburg); fields at the corner of George St. and East Fuller St., near College Ave., City, 1896 (M. & C.). It is not known to occur elsewhere in the State.

POLYMNIA L. LEAF-CUP.

1217. **P. Canadensis L.**

Low woods; local. Last of June–Oct.

Abundant in the Soldiers' Home woods; Hilton's Lake; along the D. G. H. & M. Ry. between Ada Village and Lowell; Cedar Swamp (Weatherwax Part).

1218. **P. Uvedalia L.**

Rich moist woods in John Ball Park, City. Aug.

Its occurrence in the State has only one previous mention.

PRENANTHES Vaill. RATTLESNAKE-ROOT.

Nabalus Cass.

1219. **P. alba L. White Lettuce. Rattlesnake-root.**

Borders of rich woods. Aug.–Sept.

Abundant and variable, often 6 feet high.

1220. **P. altissima L.**

Frequent in moist, oak woods. Aug.

1221. **P. racemosa Michx.**

In moist, open places along the D. G. H. & M. Ry., east of the City (B.Q. Hazlewood). Scarce. Aug.–Sept.

RUDBECKIA L. CONE-FLOWER.

1222. **R. hirta L. Black Eyed Susan.**

Dry soil; common. July–Aug.

Occasionally the rays are reddish-brown.

"Native only on the western prairies. Widely distributed in the East as a weed."

1223. **R. laciniata L.**

Frequent in springy places. Aug.–Sept.

1224. **R. speciosa Wender.**

Meadows; frequent. Aug.–Sept.

SENECIO L. GROUNDSEL.

1225. **S. atriplicifolius** Hook. (Cacalia atriplicifolia L.)
Mesadenia atriplicifolia (L.) Raf.
Frequent on the margins of oak openings. Aug.
1226. **S. aureus** L. Golden Ragwort. Squaw-weed.
Open swamps; frequent and variable. Mid-May–Mid-June.
1227. **S. aureus obovatus** Torr. & Gray.
Dry soil; common. Mid-May–Mid-June.

SILPHIUM L. ROSIN-WEED.

1228. **S. terebinthinaceum** Jacq.
In oak openings; local. Aug.–Sept.
D. G. H. & M. Ry. at East St.; bank of Grand River below the
Lower Swing Bridge; north side of Fisk Lake (O.H.); Silver
Creek at Jefferson Ave., City. Infrequent in the State.

SOLIDAGO L. GOLDEN-ROD.

1229. **S. bicolor** L.
Dry banks; local. Sept.
Hogadone Creek region (O.H.). It is only known to occur at
two other stations in the State.
1230. **S. bicolor concolor** Torr. & Gray.
S. hispidu Muhl.
Dry woods and fields; frequent. Last of Aug.–Sept.
1231. **S. caesia** L.
Common in rich woods. Aug.–Sept.
1232. **S. caesia axillaris** Gray.
Found with the type. Aug.–Sept.
1233. **S. Canadensis** L.
Common and variable. Sept.–Oct.
1234. **S. juncea** Ait.
Not uncommon in open places. Mid-July–first of Aug.
1235. **S. lanceolata** L.
Euthamia graninifolia (L.) Nutt.
Common in wet places. Aug.–Sept.

1236. ***S. latifolia* L.***S. flexicaulis* L.

Frequent in moist woods. Aug.—Sept.

1237. ***S. neglecta* Torr. & Gray.**

In sphagnum swamps; infrequent. Sept.

D. G. H. & M. Ry., east of City; Cedar Swamp; Chase Lake;
Sec. 3, Cascade; Clear Lake; Lamberton Lake region.1238. ***S. nemoralis* Ait.**

Common in light soil. Aug.—Sept.

1239. ***S. Ohioensis* Riddell.**

In marshes and springy places; infrequent. Mid-Aug.—Sept.

D. G. H. & M. Ry., east of City; Walden Lake; Lamberton
Lake; Button Lake; Sec. 31, Plainfield; Campau Lake.1240. ***S. patula* Muhl.**

Common in swampy ground. Aug.

1241. ***S. Riddellii* Frank.**

In wet ground; occasional. Mid-Aug.—Sept.

Orchid Swamp; along the railroads, south of Burton Ave.; below
the Eagle Plaster Mills, along the L. S. & M. S. Ry.; South Di-
vision St., near Plaster Creek; Carrier Creek and North Union
St., City; Lamberton Lake; Stafford Lake.1242. ***S. rigida* L.**

Dry banks; occasional. Aug.

Bluffs at Plainfield Village; along the bluffs of Rouge River;
Pine Hill; Pine Island Lake; Vergennes; Grand Rapids. Infre-
quent in the State.1243. ***S. rigidiuscula* (Torr. & Gray) Porter.**

(S. speciosa angustata Gray.)

In dry sandy soil; frequent in oak openings. Mid-July—Mid-Aug.
The first golden-rod to flower. Its occurrence is known in but
one other locality in the State.1244. ***S. rugosa* Mill.**

Moist soil; common. Last of Aug.—Sept.

1245. *S. serotina* Ait.

Borders of woods; frequent. Last of July–Aug.

1246. *S. serotina gigantea* Gray.

Found with the type. Last of July–Aug.

1247. *S. speciosa* Nutt.

Light soil, in and about oak openings; common. Sept.

1248. *S. tenuifolia* Pursh.

Euthamia Caroliniana (L.) Greene.

In sandy soil, Pine Island Lake at the “picnic grounds”; found also in Blendon. Not abundant. Aug.

1249. *S. uliginosa* Nutt.

In swamps; occasional. Aug.

Button Lake; Clear Lake.

1250. *S. ulmifolia* Muhl.

Grows on the edges of the “sand-pit” in John Ball Park, City.

Rare. Aug.–Sept.

SONCHUS L. SOW-THISTLE.

1251. *S. ASPER* Hill. Spiny-leaved Sow-Thistle.

Waste places, in rich ground; frequent. July–Sept.

1252. *S. OLERACEUS* L. Common Sow-Thistle.

Fields and waste places; frequent. July–Sept.

TANACETUM L. TANSY.

1253. *T. VULGARE* L. Tansy.

Escaped from cultivation; frequent near dwellings. July–Sept.

TARAXACUM Hall. DANDELION.

1254. *T. OFFICINALE* Weber. Common Dandelion.

T. Taraxacum (L.) Karst.

Fields, everywhere. May–Oct.

“Distributed as a weed in all civilized parts of the world.”

TRAGOPOGON L. GOAT’S-BREAD.

1255. *T. PORRIFOLIUS* L. Salsify. Vegetable Oyster.

Escaped from cultivation to roadsides; becoming frequent. Summer.

1256. *T. PRATENSIS* L. Goat's-beard.

Along waysides and in untilled soil; spreading freely. June-July.

VERBESINA L.

V. encelioides (Cav.) Gray. Golden Crownbeard.

This species has appeared since 1892 on the Farm of J. E. Phillips, Sec. 19, Paris. It was introduced through refuse from the Felt-Boot Factory, where the wool used was procured from New Mexico and the South-West (Allen Phillips). The plant is an annual and is reproduced through self-sown seed. It retains all of its original characteristics, even the color of its foliage.

In 1892, seeds from these plants were sent to the Botanical Garden of M.A.C., where it still maintains itself. Besides this species, several others, unquestionably introduced in the same manner, are found on the Farm of Mr. Phillips; as, *Centaurea virgata*, *Erysimum asperum*, *Grindelia squarrosa*, *Helianthus petiolaris*, and *Sisymbrium Irio*.

To note the plants which appear and become established on the premises of those using the refuse from this Factory, would be of general interest and importance. Of late, considerable of the material used in the Factory has been imported from India, Persia, and Russia.

VERNONIA Schreb. IRON-WEED.

1257. *V. altissima* Nutt.

V. gigantea (Walt.) Britton.

In moist soil; frequent. Aug.-Mid-Sept.

1258. *V. altissima grandiflora* Gray.

V. Drummondii Shuttlw.

River banks and low ground; frequent. Aug.-Mid-Sept.

1259. *V. glauca* L. Britton.

On light soil along the roadside between West Bridge St. and Stafford Lake. Aug.

XANTHIUM L. COCKLEBUR. CLOTBUR.

1260. *X. Canadense* Mill.

Common along river banks and in waste places. Aug.-Oct.



O'er the tangled slopes where the hazels spring.
The witches cast charms, I am told,
And the rays of sunshine must twist and cling
Till stiffened by snow and cold.

Each little brown pod is the home of an elf
Which peeps from its window in glee;
While I stand bewitched in a spell myself.
They leap out with a laugh at me.

M. B. F

INDEX.

	Page.		Page.		Page.
Abele	54	AMARANTACEAE	64	Arbutus, Trailing	119
Abutilon	106	Amaranth	65	Arctium	146
Acacia, Three-thorned	92	AMARANTH FAMILY	64	Arctostaphylos	119
Acalypha	100	Amarantus	65	Arenaria	66
Acer	108	AMARYLLIDACEAE	46	Arethusa	47
ACERACEAE	103	AMARYLLIS FAMILY	46	Arisaema	39
Acerates	124	Ambrosia	145	ARISTOLOCHACEAE	60
Achillea	145	Amelanchier	88	Arrow-head	11
Acnida	64	Amorpha	93	wood	142
Acorus	39	Ampelopsis	106	Artemisia	147
Actaea	60	Amphicarpa	93	Artichoke, Jerusalem	153
Adam-and-Eve	47	ANACARDIACEAE	101	Arum, Arrow	39
Adder's-Mouth	51	Anaphalis	145	Dragon	39
ADDER'S-TONGUE		Andromeda	119	Water	39
FAMILY	1	Andropogon	13	ARUM FAMILY	39
Adder's-Tongue, Yellow	44	Anemone	70	Asarabacca	60
Adiantum	2	Angelica	113	Asarum	60
Adlumia	75	Angiospermae	8	ASCLEPIADACEAE	124
Agrimonia	83	ANONACEAE	60	Asclepias	124
Agrimony	83	Antennaria	145	Ash	122
Agropyron	12	Anthemis	146	Mountain	89
Agrostis	13	Apera	13	Prickly	99
Ailanthus	99	Aphyllon	138	Asimina	69
AILANTHUS FAMILY	99	Aplos	93	Asparagus	43
AIZOACEAE	66	Aplectrum	47	Aspen	54
Alder	56	APOCYNACEAE	123	Asphodel, False	46
Black	102	Apocynum	123	Aspidium	2
Speckled or Hoary	56	Apple	80, 90	Asplenium	3
Alettris	43	American Crab	90	Asprella	14
Alfalfa	96	Cultivated	90	Aster	147
Alisma	11	May	78	Astragalus	93
ALISMACEAE	11	Thorn	182	Atriplex	63
Allium	43	APPLE FAMILY	88	Avena	14
Allspice, Wild	74	Aquilegia	70	Avens	84
Alnus	56	Arabis	75	Balm of Gilead	54
Alopecurus	13	Araceae	30	Bee	130
Althaea	106	Aralia	112	Horse	129
Alum-root	82	ARALIACEAE	112	Balsam	104
Alyssum	75	Arbor Vitae	8	apple, Wild	143

	Page.		Page.		Page.
BALSAMINACEAE	104	Blephilia	128	Campanula	144
Baneberry	69	Blite, Strawberry	63	CAMPANULACEAE	144
Barbarea	76	Blood-root	74	CAMPANULA FAMILY	144
Barberry	73	Blueberry	120	Campion	67
BARBERRY FAMILY	73	Blue-weed	127	Cancer-root	139
Bartonia	122	Boehmeria	59	Cannabis	59
Basil	131	Boneset	152	CAPER FAMILY	80
Basswood	105	BORAGE FAMILY	126	CAPPARIDACEAE	80
Bayberry	54	BORAGINACEAE	126	CAPRIFOLIACEAE	141
Bean, Wild	93	Botrychium	1	Capsella	77
Bearberry	119	Bouncing Bet	67	Caraway	113
Beard-tongue	136	Bouteloua	14	Cardamine	77
Beaver-Poison	114	Box-Elder	104	Cardinal-flower	144
Bedstraw	140	Brachyelytrum	14	Carex	25
Beech	57	Bracken	4	Carnation	67
Blue or Water	57	Brake	4	Carpet-weed	66
BEECH FAMILY	57	Bramble	86	CARPET-WEED FAMI-	
Beech-drops	139	Brasenia	68	LY	66
False	118	Brassica	76	Carpinus	57
Beggar's Lice	127	Bromus	14	Carrión-Flower	45
Beggar-ticks	149	Brooklime, American	137	Carrot	114
Bellflower	144	Brook-weed	121	Carum	113
Bellwort	46	BROOM-RAPE FAMILY	138	Carya	53
Benjamin-bush	74	Broom-rape, Naked	128	CARYOPHYLLACEAE	66
BERBERIDACEAE	73	Buckbean	123	CASHEW FAMILY	101
Berberis	73	Buckthorn	105	Cassandra	119
Bergamot, Wild	131	BUCKTHORN FAMILY	105	Cassia	91
Berula	113	Buckwheat	60	Castilleja	134
Betony Wood	130	Climbing False	62	Catchfly	67
Betula	57	BUCKWHEAT FAMI-		Catgut	96
BETULACEAE	56	LY	60	Cat-Mint	131
Bidens	149	Bugle-weed	130	Catnip	131
Bilberry	120	Bugloss, Viper's	127	CAT-TAIL FAMILY	8
Bindweed	125	Bulrush	37	Caulophyllum	73
Black	61	Bunch-berry	117	Ceanothus	105
Hedge	123	Burdock	146	Cedar, Red	7
Birch	57	Burning-Bush	102	White	8
BIRCH FAMILY	56	Butter and Eggs	135	Celandine	74
Birthroot	46	Buttercup	71, 72	CELASTRACEAE	102
Bishop's Cap	82	Butterfly-weed	125	Celastrus	102
Bitter-nut	53	Butternut	53	Celtis	58
Bittersweet	133	Butter-weed	152	Cenchrus	15
Climbing or		Button-bush	140	Cephalanthus	140
Shrubby	162	Buttonwood	33	Cerastium	66
BIRTHWORT FAMILY	60	Cabbage, Skunk	40	CERATOPHYLLACEAE	69
Blackberry	86, 87	CAESALPINACEAE	91	Ceratophyllum	69
Black Eyed Susan	156	Calamagrostis	15	Cercis	92
Bladder-nut	103	Calamint	129	CAESALPINACEAE	91
BLADDER-NUT FAM-		Calamintha	129	Chaerophyllum	113
ILY	108	Calamus	39	Chamomile	146
Bladderwort	138	Calla	39	Charlock, English	77
BLADDERWORT FAM-		Calopogon	48	Jointed	80
ILY	138	Caltha	71	Cheat	15
Blazing-Star	155	Camellina	77	Chelidonium	74

INDEX.

163

	Page.		Page.		Page.
Chelone	134	Conioselinum	114	Currant.....	82
CHENOPODIACEAE...	63	Conium.....	114	Indian	142
Chenopodium.....	63	Conopholis	139	Cuscuta.....	126
Cherry	90, 91	CONVOLVULACEAE ..	125	CUSCUTACEAE	126
Ground	133	Convolvulus	125	CUSTARD-APPLE	
Chess	15	CONVOLVULUS FAMI-		FAMILY	69
Chickweed	68	LY	125	Cyclolma	64
Indian	66	Coptis	71	Cynoglossum	126
Mouse-ear..	66	Coral-berry.....	142	CYPERACEAE	25
Chicory	150	Corallorhiza	48	Cyperus	33
Chimaphila	118	Coral-root.....	48	Cypripedium	48
Chloenes	119	Coreopsis	150	Cystopteris.....	3
Choke-berry	90	CORNACEAE	117	Dactylis	16
Chrysanthemum	150	Cornel	117	Daisy, Ox-eye.....	150
Chrysopogon	15	Corn Salad.....	143	White	150
Chrysosplenium	82	Cornus	117	Dandelion	159
Cichorium	150	Corpse-plant.....	118	Dwarf.....	154
Cicuta	114	Corydalis.....	75	Danthonia	16
Cinna	16	Corylus.....	57	Darnel	19
Cinque-foil.....	85	Costmary	150	Datura.....	132
Circaea	110	Cotton-wood	54	Daucus	114
CISTACEAE	107	Cowbane	116	Decodon	110
Cladium	33	Spotted	114	Dentaria	78
Claytonia	66	Cowslip, Virginian	127	Deschampsia	16
Clearweed	60	Cow-wheat	135	Desmodium	93
Cleavers.....	140	Cranberry	120	Dewberry	86
Clematis.....	71	Cranberry-tree.....	143	Dianthus	67
Cleome	80	Cranesbill	98	Dicentra.....	75
Clintonia	43	CRASSULACEAE	81	Dicotyledones	53
Clotbur	160	Crataegus.....	88	Diervilla.....	141
Clover	97	Creeper, Virginian	105	Dioscorea	47
Bush.....	95	Cress, Bitter	77	DIOSCOREACEAE	47
Sweet.....	96	Lake	79	Diploxalis	78
Club-Moss	6	Marsh	79	DIPSACEAE	143
CLUB-MOSS FAMILY..	6	Purple	78	Dipsacus	142
Cnicus	150	Rock.....	75	Dirca	110
Cockle.....	67	Spring.....	78	Dock	62
Cocklebur	160	True Water	79	Spatter	68
Coffee-tree, Kentucky .	92	Water.....	79	Dockmackie.....	142
Cobosh	69	Winter	76	Dodder	126
Blue	73	Yellow	79	DODDER FAMILY.....	126
Colic-root	43	Crinkle-root.....	78	Dogbane.....	123
Collinsia.....	134	Crowfoot	71	DOGBANE FAMILY.....	123
Collinsonia	129	CROWFOOT FAMILY..	69	Dogwood	117
Columbine	70	Crownbeard, Golden ..	160	Poison	102
Columbo, American....	123	CRUCIFERAE	75	DOGWOOD FAMILY ..	117
Comandra.....	60	Cryptotaenia.....	114	Draba	78
Comfrey	128	Cuckoo Flower.....	77	Dragon-head, False....	131
COMMELINACEAE	41	Cucumber-root, Indian	44	Dragon-root	39
COMPOSITAE	145	CUCURBITACEAE.....	143	Drosera	81
COMPOSITE FAMILY..	145	Cudweed	152	DROSERACEAE	81
Cone-flower.....	156	Culver's Physic.....	137	DRUPACEAE	90
Purple.....	151	Culver's-root	137	Duck's-meat	40
CONIFERAE	7	Cup, Huntsman's.....	81	Duckweed.....	40

	Page.		Page.		Page.
DUCKWEED FAMILY	40	Fern, Sensitive	3	Germander	182
Dulichium	34	Shield	2	Geum	84
Dutchman's Breeches	75	Sweet	54	Gill-over-the-Ground	131
Eatonia	16	Festuca	17	Ginger Wild	60
Echinacea	151	Fever-bush	74	Ginseng	112
Echinocystis	143	Fever-wort	142	GINSENG FAMILY	112
Echinops	151	Figwort	136	Gleditschia	92
Echinosperrum	127	FIGWORT FAMILY	134	Glyceria	18
Echium	127	Filbert	57	Gnaphalium	152
Elder	142	FILICES	2	Goat's-beard	160
Box	104	Fimbristyllis	36	Goat's Rue	96
Elecampane	154	Fireweed	111, 151	Golden-rod	157
Eleocharis	34	Five-finger	85	Goldthread	71
Elm	59	Flag, Blue	47	Goodyera	49
ELM FAMILY	58	Cat-tail	9	Gooseberry	82
Elodea	12	Sweet	29	GOOSEBERRY FAMI-	
Elymus	16	Flax	98	LY	82
Epigaea	119	False	77	Goosefoot	63
Epilobium	110	FLAX FAMILY	98	Maple-leaved	64
Epiphegus	139	Fleabane	152	Oak-leaved	64
EQUISETACEAE	4	Flower-de-Luce, Wild	47	GOOSEFOOT FAMILY	63
Equisetum	4	Foeniculum	115	GOURD FAMILY	143
Eragrostis	17	Fog-fruit	128	GRAMINEAE	12
Erechtites	151	Forget-me-not	127	Grape	105
ERICACEAE	119	FOUR-O'CLOCK FAMI-		Grappheporum	18
Erigenia	115	LY	65	GRASS FAMILY	12
Erigeron	152	Foxglove	134	Grass, Arrow	11
ERIOCAULEAE	40	Fragaria	84	Barnyard	21
Eriocaulon	40	Frasera	123	Beard	13
Eriophorum	35	Fraxinus	122	Bent	13
Erodium	97	FROG'S BIT FAMILY	12	Blue-eyed	47
Erysimum	78	Frost-weed	107	Blue-Joint	15
Erythronium	43	Fuirena	36	Bottle	24
Euonymus	102	FUMARIACEAE	75	Bottle-brush	14
Eupatorium	152	Fumitory Climbing	75	Bristly-Foxtail	24
Euphorbia	100	FUMITORY FAMILY	75	Brome	14
EUPHORBIACEAE	100	Galingale	22	Bur	15
EVENING PRIMROSE		Galium	140	Canary	22
FAMILY	110	Garget	65	Cat's-tail	22
Everlasting	145, 152	Garlic	43	Cord, Fresh-water	24
Pearly	145	Gaultheria	119	Cotton	35
FAGACEAE	57	Gaura	111	Couch	13
Fagopyrum	60	Gaylussacia	120	Crab	22
Fagus	57	GENTIAN FAMILY	122	Drop-seed	19, 24
Fennel	115	Gentian	123	Ecl	12
Dog	146	Horse	142	English Blue	23
Fennel-flower	71	Gentiana	123	Feather	24
FERN FAMILY	2	GENTIANACEAE	122	Fescue	17
Fern, Beech	4	GERANIACEAE	97	Fiorin	13
Bladder	3	GERANIUM FAMILY	97	Finger	22
Chain	4	Geranium	98	Fowl Meadow	23
Christmas	2	Feather	63	Foxtail	13, 24
Cinnamon	4	Mint	150	Goose	140
Flowering	4	Gerardia	134	Gram	14

	Page.		Page.		Page
Grass, Hair	13	Greenbrier	45	Hop-tree	99
Hedgehog	15	Green Dragon	39	Hordeum	19
Herd's	22	Grindelia	152	Horehound	130
Holy	19	Gromwell	127	Water	130
Hungarian	24	GROSSULARIACEAE ..	82	Hornbeam	57
Indian	15	Ground-nut.	98, 113	Hop....	57
June	23	Groundsel	157	Hornwort	69
Kentucky blue ..	23	Gymnocladus	92	HORNWORT FAMILY	69
Knot	61	Gymnospermae	7	Horse-brier	45
Lyme	16	Habenaria	49	Horseradish	79
Manna	18	Hackberry	58	Horsetail	4
Marsh	24	HALORAGACEAE	112	HORSETAIL FAMILY	4
Meadow	23	HAMAMELIDACEAE ..	83	Horse-weed	152
Mesquite	14	Hamamelis	83	Hound's Tongue	126
Millet	19	Harbinger-of-Spring ..	115	Houstonia	141
Oat	14, 16	Hardhack	87	Huckleberry	120
Old-witch	20	Harebell	144	HUCKLEBERRY FAM-	
Orchard	16	Hawkweed	153	ILY	119
Panic	20	Hawthorn	88	Humulus	59
of Parnassus	82	Hazel-nut	57	Hyacinth, Grape	44
Pigeon	24	Heal-all	131	Hydrastis	71
Porcupine	24	Heart's-ease	108, 110	HYDROCHARIDACEAE	12
Quack	13	HEATH FAMILY	119	Hydrocotyle	115
Quake	14	Hedeoma	129	HYDROPHYLLACEAE	126
Quick	13	Helenium	153	Hydrophyllum	126
Quitch	13	Helianthemum	107	Hypericum	106
Rattlesnake	18	Helianthus	153	HYPERICACEAE	106
Ray	19	Hemerocallis	44	Hypoxis	46
Red-top	13	Hemicarpha	36	Hyssopus	129
False... ..	23	Hemlock	8	Hyssop	129
Reed, Bent	15	Ground	8	Giant	129
Wood	16	Parsley	114	Ilex	102
Ribbon	22	Poison	114	ILICINEAE	102
Rice Out	19	Water	114	Oysanthes	135
Rush	24	Hemp	59	Impatiens	104
Rye	19	Indian	123	Indian Pipe	118
Scorpion	127	Water	64	INDIAN PIPE FAMILY	118
Seneca	19	Heracleum	115	Indigo, False	93
Shave	5	Herb Robert	98	Inula	134
Spear	23	Heteranthera	41	Ipomoeae	125
Squirrel-tail	19	Heuchera	82	IRIDACEAE	47
Star	43	Hibiscus	106	Iris	47
Tape	12	Hickory	53	IRIS FAMILY	47
Thin	13	Hieracium	153	Iron-weed	160
Umbrella	36	Hierochloe	19	Iron-wood	57
Vanilla	19	Holly	102	Isopyrum	71
Wheat, Awmed ..	12	Mountain	102	Ivy, Ground	131
White	19	HOLLY FAMILY	102	Poison	101
Whitlow	78	Hollyhock	106	Jamestown-Weed	132
Wire	23	Honewort	114	Jeffersonia	73
Wood	15	Honeysuckle	141	Jewel-weed	104
Yellow-eyed	40	HONEYSUCKLE FAMI-		JEWEL-WEED FAMI-	
YELLOW-EYED GRASS		LY	141	LY	104
FAMILY	40	Hop	59	Joe-Pye Weed	152

Page.		Page.		Page.	
Judas-tree	98	Lily, Water	98	Maidenhair	2
JUGLANDACEAE	58	Yellow Pond	98	Mallow	108
Juglans	58	LINACEAE	98	Indian	108
JUNCEAE	41	Linaria	125	Rose	108
Juncus	41	Linden	105	MALLOW FAMILY	108
June-berry	88	LINDEN FAMILY	105	Malva	108
Juniperus	7	Lindera	74	MALVACEAE	108
Juniper	7	Linnaea	141	Mandrake	78
Ketmia, Bladder	106	Linum	98	Man-of-the-Earth	125
Kinnikinnik	117	Liparis	51	Maple	108
Knawel	87	Lippia	128	Ash-leaved	104
Knotweed	61	Liquorice, Wild	140	MAPLE FAMILY	108
Koeleria	19	Liriodendron	69	Marigold, Bur	149
Krigia	154	Lithospermum	127	Marsh	71
Kuhnia	154	Live-for-ever	81	Marrubium	180
LABIATAE	128	Liver-leaf	70	Matrimony-Vine	128
Lactuca	155	Lizard's-tail	58	May-weed	146
Lady's Slipper	48	LIZARD'S-TAIL FAM-		Meadow-Rue	78
Lady's Thumb	62	ILY	58	Meadow-Sweet	87
Ladies' Tresses	52	Lobelia	144	Medeola	44
Lamb's-Quarters	68	Locust, Clammy	98	Medicago	98
Laportea	60	False Acacia	98	Medick	98
Larch	7	Honey	98	Melampyrum	125
Larix	7	Locust-tree	98	Mellilot	98
Lathyrus	94	Lolium	19	Mellilotus	98
LAURACEAE	74	Loniceria	141	MENISPERMACEAE	78
LAUREL FAMILY	74	Looking-glass, Venus'	144	Menispermum	78
Laurel, Ground	119	Loosestrife	121	Mentha	120
Laurestinus	142	False	111	Menyanthes	128
Lead-Plant	98	Swamp	110	Mercury Three-seeded	100
Leaf-Cup	156	LOOSESTRIFE FAMI-		Mermaid-weed	112
Leather-Leaf	119	LY	110	Mertensia	127
Leatherwood	110	Lophanthus	120	MEZEREUM FAMILY	110
Lechea	108	Lopseed	120	Microstylis	51
Ledum	119	LOPSEED FAMILY	120	Milium	19
Leek, Wild	48	Lousewort	128	Milkweed	124
Leersia	19	Lucerne	98	Green	124
Lemna	40	Ludwigia	111	MILKWEED FAMILY	124
LEMNACEAE	40	Lungwort	127	Milkwort	98
LENTIBULARIACEAE	128	Lupine	98	MILKWORT FAMILY	98
Leonurus	120	Lupinus	98	Millet	21, 24
Lepachys	156	Luzula	42	Mimulus	126
Lepidium	79	Lychnis	67	MINT FAMILY	128
Lespedeza	98	Lycium	123	Mint	120
Lettuce	156	LYCOPODIACEAE	6	Horse	120
Lamb	143	Lycopodium	6	Mountain	121
Lever-wood	57	Lycopus	120	Mitchella	141
Liatris	155	Lysimachia	121	Mitella	88
Lilac	128	LYTHRACEAE	110	Mitre-wort	88
LILIACEAE	48	Maclura	50	Moccasin-flower	48
Lilium	44	MADDER FAMILY	140	Mollugo	66
LILY FAMILY	48	MAGNOLIA FAMILY	69	Monarda	120
Lily	44	MAGNOLIACEAE	69	Moneywort	121
Day	44	Maianthemum	44	Monkey-flower	126

Page.		Page.		Page.	
<i>Monocotyledones</i>	8	<i>NYMPHAEACEAE</i>	68	Peach 91	
<i>Monotropa</i>	118	<i>Nyssa</i>	117	Pear 89	
MONOTROPACEAE ..	118	<i>Oak</i>	58	<i>Pedicularis</i>	136
<i>Moonseed</i>	73	<i>Jerusalem</i>	68	<i>Peltandra</i>	39
MOONSEED FAMILY .	73	<i>Poison</i>	101	<i>Pennyroyal</i>	129
<i>Moonwort</i>	1	<i>Oat</i>	14	<i>Pennywort, Water</i>	115
<i>Moosewood</i>	110	<i>Oats, Water</i>	24	<i>Penthorum</i>	81
<i>Morning-Glory</i>	125	<i>OEnothera</i>	111	<i>Pentstemon</i>	138
MORACEAE	59	OLEACEAE	122	<i>Peppergrass</i>	79
<i>Morus</i>	59	OLIVE FAMILY ..	122	<i>Pepperidge</i>	117
<i>Motherwort</i>	129	ONAGRACEAE	110	<i>Peppermint</i>	130
<i>Muhlenbergia</i>	19	<i>Onion</i>	43	<i>Pepper-root</i>	78
<i>Mulberry, Red</i>	59	<i>Onoclea</i>	3	<i>Pepperwort</i>	79
MULBERRY FAMILY .	59	<i>Onopordon</i>	155	<i>Periwinkle</i>	124
<i>Mullein</i>	137	OPHIOGLOSSACEAE .	1	<i>Phalaris</i>	22
<i>Muscari</i>	44	<i>Orache</i>	63	<i>Phegopteris</i>	4
<i>Mustard</i>	76	<i>Orange, Osage</i>	59	<i>Phleum</i>	22
<i>Hedge</i>	80	<i>Orange-root</i>	71	<i>Phlox</i>	126
<i>Tansy</i>	80	ORCHIDACEAE	47	PHLOX FAMILY ..	126
<i>Tower</i>	76	ORCHID FAMILY ..	47	<i>Phragmites</i>	23
<i>Treacle</i>	78	<i>Orchis</i>	52	<i>Phryma</i>	139
<i>Worm-seed</i>	79	<i>Rein</i>	49	<i>Physalis</i>	133
MUSTARD FAMILY ..	75	OROBANCHACEAE	138	PHRYMACEAE	139
<i>Myosotis</i>	127	<i>Orpine</i>	81	<i>Physostegia</i>	131
<i>Myrica</i>	54	ORPINE FAMILY ..	81	<i>Phytolacca</i>	65
MYRICACEAE	54	<i>Oryzopsis</i>	20	PHYTOLACCACEAE ..	65
<i>Myriophyllum</i>	112	<i>Osier</i>	55	<i>Picea</i>	7
<i>Myrtle</i>	124	<i>Osmorrhiza</i>	115	<i>Pickereel-weed</i>	41
<i>Wax</i>	54	<i>Osmunda</i>	4	PICKEREL-WEED	
NAIADACEAE	9	<i>Ostrya</i>	57	FAMILY	41
<i>Najas</i>	9	OXALIDACEAE	98	<i>Pigeon-berry</i>	65
<i>Nasturtium</i>	79	<i>Oxalis</i>	98	<i>Pig-nut</i>	53
<i>Neckweed</i>	137	<i>Oxybaphus</i>	65	<i>Pig-weed</i>	63
<i>Negundo</i>	104	<i>Oyster, Vegetable</i>	159	<i>Winged</i>	64
<i>Neillia</i>	85	<i>Painted-Cup, Scarlet</i> ..	134	<i>Pilea</i>	60
<i>Nemopanthus</i>	102	<i>Panicum</i>	20	<i>Pimpernel, False</i>	135
<i>Nepeta</i>	131	<i>Pansy</i>	110	<i>Water</i>	121
<i>Nettle</i>	60	<i>Papaver</i>	74	<i>Pimpinella</i>	116
<i>False</i>	59	PAPAVERACEAE	74	<i>Pine</i>	7
<i>Hedge</i>	132	<i>Papaw</i>	60	<i>Ground</i>	6
<i>Horse</i>	133	PAPILIONACEAE	93	PINE FAMILY	7
<i>Wood</i>	60	<i>Pappoose-root</i>	73	<i>Pine-sap</i>	118
NETTLE FAMILY ..	59	<i>Parnassia</i>	82	<i>Pink</i>	67
<i>Nettle-tree</i>	58	PARSLEY FAMILY ..	113	<i>Ground or Moss</i> ..	126
<i>Nigella</i>	71	<i>Parsley, Hemlock</i>	114	<i>Malden</i>	67
<i>Nightshade</i>	133	<i>Parsnip</i>	116	<i>Mullein</i>	67
<i>Enchanter's</i> ..	110	<i>Cow</i>	115	PINK FAMILY	66
NIGHTSHADE FAMILY 132		<i>Water</i>	116	<i>Pinus</i>	7
<i>Nimble Will</i>	19	<i>Partridge-berry</i>	141	<i>Pinweed</i>	108
<i>Nine-bark</i>	85	<i>Pastinaca</i>	116	<i>Pipe, Indian</i>	118
<i>Nonesuch</i>	96	<i>Pea, Everlasting</i>	94	PIPEWORT FAMILY ..	40
<i>Nuphar</i>	68	<i>Hoary</i>	96	<i>Pipsissewa</i>	113
NYCTAGINACEAE	65	PEA FAMILY	93	PITCHER PLANT FAM-	
<i>Nymphaea</i>	68	<i>Pea-nut, Hog</i>	93	ILY,	81

	Page		Page		Page
PLANE-TREE FAMILY	83	Ptelea	99	Rubus	86
Plant, Lead	93	Pteridophyta	1	Rudbeckia	156
PLANTAGINACEAE	139	Pteris	4	RUE FAMILY	99
Plantago	139	Puccoon	127	Rue, Goat's	96
Plantain	139	Yellow	71	Meadow	73
Mud	41	Purse, Shepherd's	77	Rumex	62
Rattlesnake	49	Purslane	66	Rush	91
Robin's	162	Water	111	Bald	37
Water	11	PURSLANE FAMILY	66	Beak	37
PLANTAIN FAMILY	139	Putty-root	47	Bog	41
PLATANACEAE	83	Pycnanthemum	181	Club	37
Platanus	83	Pyrola	118	Nut	39
Pleurisy-root	125	PYROLACEAE	118	Scouring	4
Plum	90	Pyrus	89	Soft	42
PLUM FAMILY	90	Queen of the Prairie	87	Spike	34
Poa	23	Quercus	58	Twig	33
Podophyllum	73	Radish, Wild	90	Wood	42
Pogonia	52	Ragweed	145	RUSH FAMILY	41
Pokeweed	65	Ragwort, Golden	157	RUTACEAE	99
POKEWEED FAMILY	65	Ramsted	135	Rye, Wild	16
Polanisia	80	RANUNCULACEAE	69	Rynchospora	37
POLEMONIACEAE	126	Ranunculus	71	Sage	131
Polygala	99	Raphanus	80	Wood	132
POLYGALACEAE	99	Raspberry	86, 87	Sagittaria	11
POLYGONACEAE	60	Rattlesnake-root	156	St. John's-wort	106
Polygonatum	45	Rattlesnake-weed	154	ST. JOHN'S-WORT	
Polygonella	60	Red-bud	92	FAMILY	106
Polygonum	61	Red-root	105, 127	SALICACEAE	54
Polymnia	156	Red-top	13	Salix	55
POMACEAE	86	False	23	Salsify	159
Pondweed	9	Reed	23	Salsola	64
PONDWEED FAMILY	9	Bur	8	Salvia	131
Pontederia	41	RHAMNACEAE	105	SAURURACEAE	53
PONTERDERIACEAE	41	Rhamnus	105	Sambucus	142
Poplar	54	Rheumatism-root	73	Samolus	121
Poppy	74	Rhus	101	SANDALWOOD FAMI-	
Celandine	74	Ribes	82	LY	60
POPPY FAMILY	74	Ribgrass	139	Sandwort	66
Populus	54	Ribwort	139	Sanguinaria	74
Portulaca	66	Rice, Indian	24	Sanicle	116
PORTULACACEAE	66	Mountain	20	Sanicula	116
Potamogeton	9	Water	24	SANTALACEAE	60
Potato-vine, Wild	125	Rich-weed	60, 129	Saponaria	67
Potentilla	85	Robinia	96	Sarracenia	81
Prenanthes	156	Rocket, Sand	73	SARRACENIACEAE	81
Primrose, Evening	111	Yellow	76	Sarsaparilla	112
PRIMROSE FAMILY	121	Rock-rose	107	Sassafras	74
PRIMULACEAE	121	ROCK-ROSE FAMILY	107	Saururus	58
Prince's Feather	62	Rosa	86	Saxifraga	82
Prince's Pine	118	ROSACEAE	83	SAXIFRAGACEAE	82
Proserpinaca	112	Rose	83	Saxifrage	82
Prunella	131	ROSE FAMILY	83	Golden	82
Prunus	90	Rosin-weed	157	SAXIFRAGE FAMILY	82
Psilocarya	87	RUBIACEAE	140	Scabious, Sweet	152

